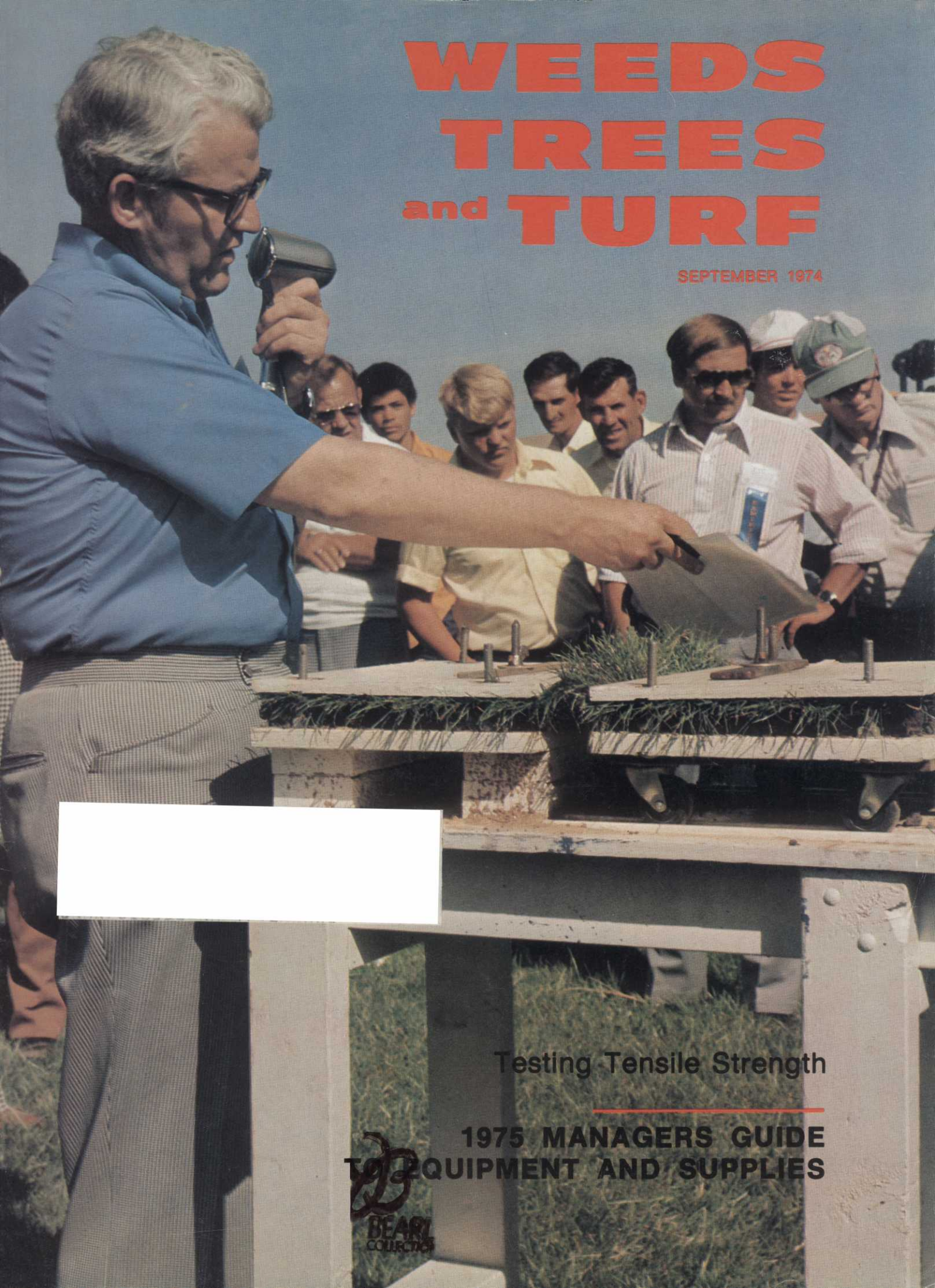
WEEDS TREES and TURF

SEPTEMBER 1974



Testing Tensile Strength

1975 MANAGERS GUIDE TO EQUIPMENT AND SUPPLIES

BEARD COLLECTION

Pennfine Perennial Ryegrass.

Maybe it's got a weakness, but nobody's found it yet.

For three years now, the professional turf community has been putting certified Pennfine Perennial Ryegrass to the test. The results are in:

Pennfine has consistently outperformed other fine-leafed ryegrasses in trials from Pennsylvania to Florida.

More importantly, Pennfine has consistently matched or exceeded the expectations of turf management people on golf courses, athletic fields, sod farms, parks, cemeteries and public grounds from Maine to California.

No one has reported a real weakness. All the characteristics the Penn State researchers were seeking when they developed Pennfine have proven out in actual application.

Soft fibres to facilitate mowability were the foremost consideration in breeding Pennfine. Both trial data and feedback from the professionals who've used it indicate that Pennfine is the cleanest cutting ryegrass available today.

Pennfine's excellent disease resistance, exceptional decumbency, persistence under a variety of management conditions, fine texture and compatibility with both Kentucky Bluegrass and fine fescue have also been demonstrated. And in the production fields of the Pacific Northwest, a major effort is being made to meet the already heavy demand for certified Pennfine Perennial Ryegrass.

If you would like specific information, write: Pennfine Perennial Ryegrass, P.O. Box 923, Minneapolis, Minnesota 55440.

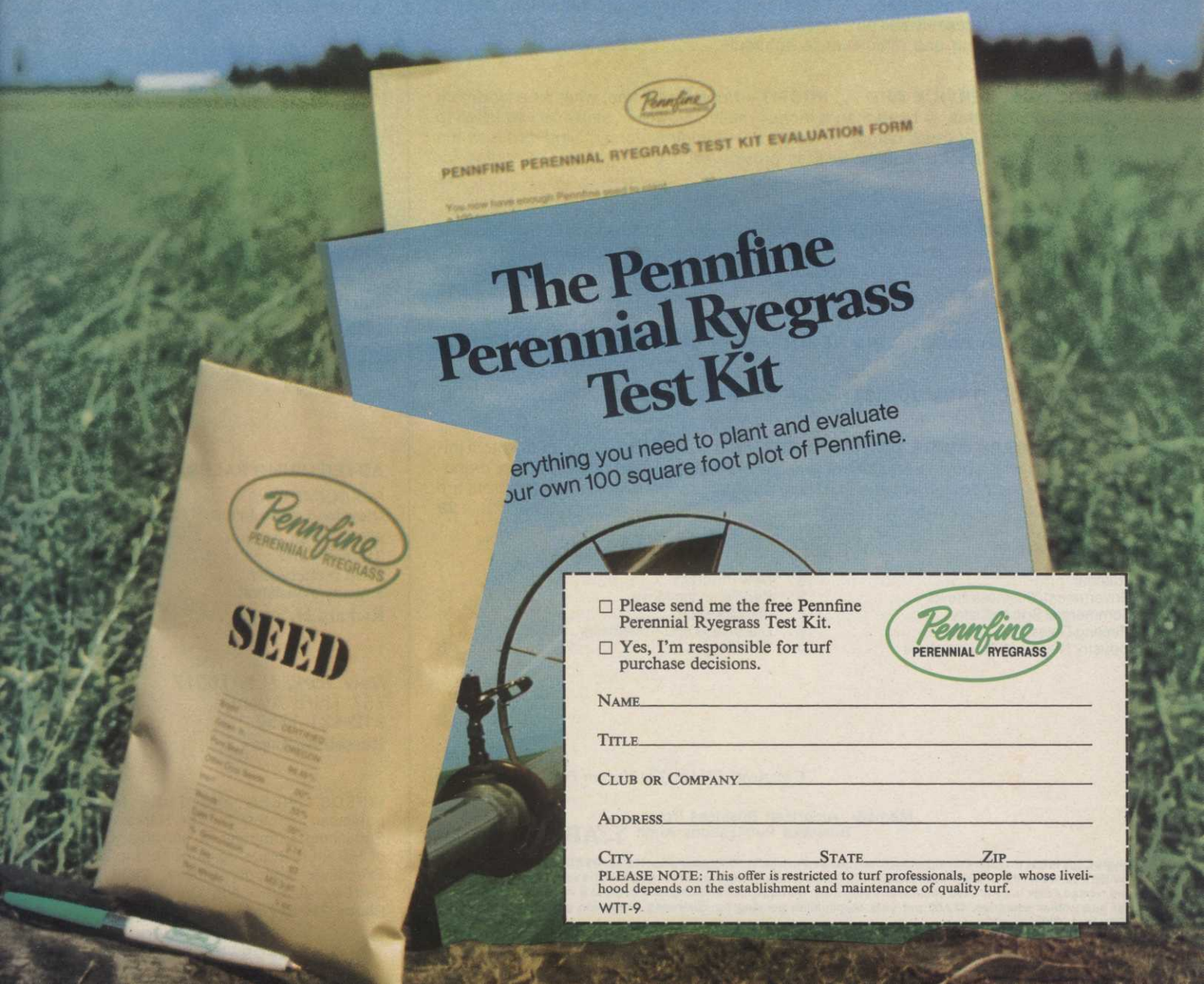
Pictured is one of the select seed production fields of the Pacific Northwest – this one in the Willamette Valley of Oregon – where certified Pennfine Perennial Ryegrass is produced under controlled growing conditions.

Clean-cutting Pennfine Conventional Ryegrass

Test it yourself, on your own turf with the new Pennfine Test Kit.

It's free. And it contains enough seed to develop a 100 sq. ft. Pennfine test plot, along with technical data and evaluation sheets. So now you can see for yourself, under your own conditions, if Pennfine is really as good as we say it is. You will be able to test it for establishment, mowability, management requirements, persistence and any other qualities that interest you.

If turf quality is important enough to you to warrant this kind of testing, send us the coupon and we'll send you a Pennfine Perennial Ryegrass Test Kit.


PENNFINE PERENNIAL RYEGRASS TEST KIT EVALUATION FORM
The Pennfine Perennial Ryegrass Test Kit
erything you need to plant and evaluate
ur own 100 square foot plot of Pennfine.
Pennfine PERENNIAL RYEGRASS
SEED

☐ Please send me the free Pennfine Perennial Ryegrass Test Kit.

☐ Yes, I'm responsible for turf purchase decisions.

Pennfine PERENNIAL RYEGRASS

NAME _____

TITLE _____

CLUB OR COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PLEASE NOTE: This offer is restricted to turf professionals, people whose livelihood depends on the establishment and maintenance of quality turf.

WTT-9

September 1974, Vol. 13, No. 9

THE COVER—Pull strength of netting-reinforced sod is demonstrated at the American Sod Producers annual summer meeting. Sod strength tests along with equipment demonstrations and exhibits highlighted the three day event.

MY REASONS FOR TREES—Most golf course superintendents are eager/scared (choose one) to plant more trees. Richard Boehm, golf course superintendent, doesn't look at trees as a necessary evil but hopes to create a more positive atmosphere with an intensive tree planting and maintenance schedule. **10**

PROTECTION, SERVICE AND . . . PROFIT—Replacing a tree, whether a landmark or backyard shadetree, is more than a money matter. However, steps can be taken to insure against one of trees' natural destroyers — lightning. John Duling tells how the commercial arborist can profit as well as provide service in lightning protection for trees. **12**

COOL WEATHER WEED CONTROL—Testing the synergistic effects of herbicides at the Lawn Institute, Marysville, Ohio, is proving that season-end applications are effective for broadleaf weed control. A detailed report that may help you make better use of a relatively slack season. **15**

AMERICAN SOD PRODUCERS ASSOCIATION CONFERENCE REPORT ... **18**

HYACINTH CONTROL SOCIETY CONFERENCE REPORT **22**

1975 MANAGERS GUIDE TO EQUIPMENT AND SUPPLIES—One of the most important steps when buying equipment is selection. This two-part guide first lists manufacturers and their equipment and supplies. Product groupings and manufacturers are listed second **29**

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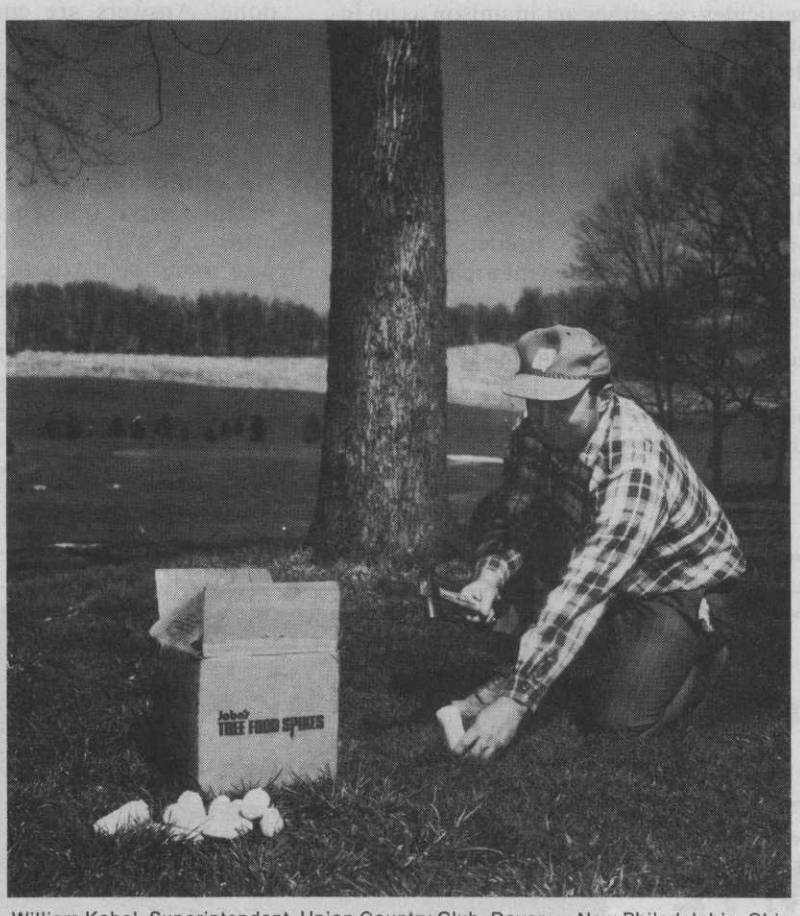
For More Details on Preceding Page Circle (132) On Reply Card

As a professional, you know

FALL IS THE BEST TIME OF ALL TO FEED A TREE... with JOBE'S TREE FOOD SPIKES



William Kobel, Superintendent, Union Country Club, Dover — New Philadelphia, Ohio

Autumn is tree feeding time. Because you are a professional, you know that Jobe's Tree Food Spikes hammered into the ground over the roots of trees will help overcome weaknesses brought about by summer heat, lack of moisture, ravages of insects, battering of winds. Especially this fall, when drought has prevailed over much of the country, trees need feeding.

Jobe's Tree Food Spikes will stimulate new root growth right up until the ground is frozen solid. As the root system develops this fall, it gives trees as well as shrubs the stamina to survive winds, rain, sleet, freeze and thaws of winter. Feeding this fall also gives the tree an earlier start next spring since a reservoir of plant food is provided.

Fertilize the trees you're responsible for with Jobe's Tree Food Spikes. Call your local jobber or distributor or order direct: 5 cases @ $30 per case, 15 cases @ $25 per case, freight prepaid.

Jobe's®
TREE FOOD SPIKES
MAKES TREE FEEDING EASIER

International Spike, Inc.
462 East High Street,
Lexington, Ky. 40508

Dept. W

For More Details Circle (117) on Reply Card

editorial

Green Industry crops are non-agronomic, and are of necessity treated as minor crops when pesticide laws are being debated. This is true despite the fact that commercial turfgrass, trees, nursery crops, etc., are in the multi-billion dollar class.

Now that we are facing October '76 as a deadline for certification of applicators and registration/reclassification of all pesticides, we either act in unison as an industry or we abide by whatever handouts the agronomic lobbies and legislative bodies determine for us.

We are being had in areas relating to research. Why? Because chemical manufacturers are faced with super costs in getting a new product registered for use. Not only more dollars are needed today, but more years of development are required to determine the validity of a new pesticide. The food crop may justify the risk; the non-food crop will seldom do so.

We are being had by law-making bodies. Because most green industry crops are low-priority compared to food crops, the new supportive research data needed to grant special pesticide uses for specific species are not being developed. Further compounding the problem is that many previous pesticide control chemicals are now illegal, the result of the Federal Environmental Pesticides Control Act of October '72.

Questions relating to this situation are basic. Who is to blame? What can be done? Answers are equally basic. Both chemical companies and government regulatory bodies are utilizing a practical approach. Attention is given the agronomic (largely food related) crops.

The second answer as to what the Green Industry can do is more involved. But to various segments of the Green Industry, what is actually done may well determine their existence.

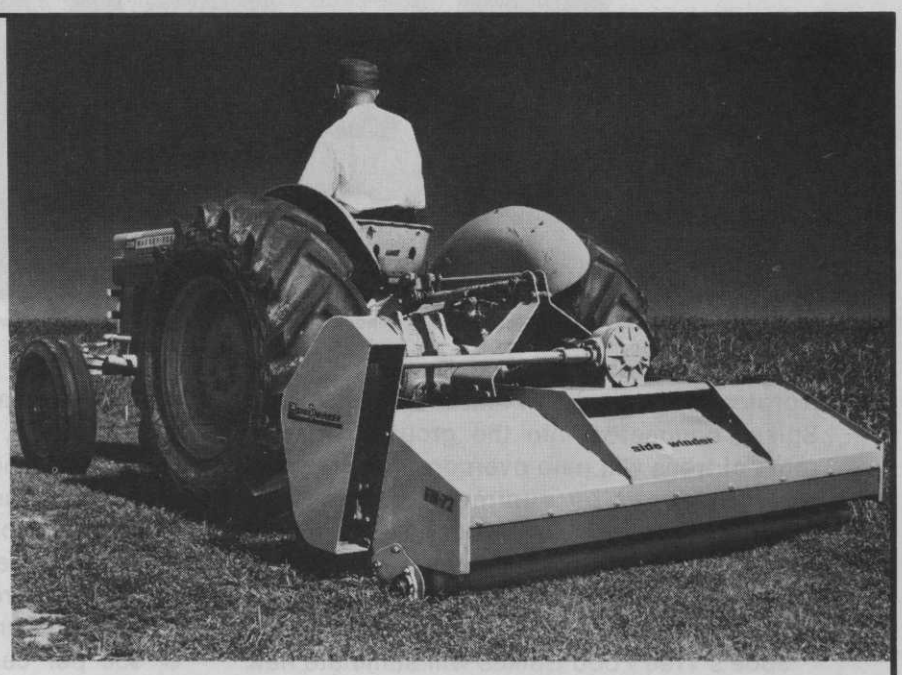
For a starter, the many segments — nurserymen, custom applicators, sod growers, arborists, golf superintendents, park superintendents, structural pest control operators and all the others — must act as a single entity.

(continued on page 27)

side winder®

Flail Mower
FM-72

The improved safety of flail mowing (compared to rotary cutting) plus a carpet-smooth finish in 6-foot wide swath. The new Side-Winder FM-72, designed for safer industrial, commercial and institutional mowing. Heavy steel shield and extra strong rubberized safety curtain give protection for operator and bystanders. New patented blade design thatches grass and weeds for smooth, well-groomed finish. Residue is pulverized for cleaner appearance and faster decomposition. Dyna-balanced blade drum protects bearings and gives a much smoother, quieter, vibrationless operation. Compare the FM-72 with any large capacity mower for a safe design and top performance.



GOLF COURSES ◖◗ RIGHT-OF-WAYS
PARKS & CEMETERIES ◖◗ RECREATION AREAS
COLLEGES & SCHOOLS ◖◗ INDUSTRIAL GROUNDS

FMC
Side-Winder Plant
Agricultural Machinery Division
Box 818 Minden, Louisiana 71055

"THE RIGHT APPROACH"* TO GOOD TURF
CHIPCO MICROGREEN LIQUID
CHIPCO MICROGREEN LIQUID
A blend of metal organo complexes of iron, zinc, manganese, and copper for the correction of turf nutritional deficiencies
GUARANTEED ANALYSIS*
Sulfur (S) 4.0%
Copper (Cu) 0.5%
Iron (Fe) 4.0%
Manganese (Mn) 0.5%
Zinc (Zn) 1.0%
NET CONTENTS 5 GALLONS (50 POUNDS)
*Should read "Minimum Guaranteed Analysis in Michigan".
Potential acidity 150 lbs. of calcium carbonate equivalent per ton.
Manufacturing Code 39-6215
CAUTION: Keep Out of Reach of Children

Chipco Microgreen Liquid is a blend of metallic micronutrients. It will correct yellowing of turf and ornamentals caused by soil deficiencies. Treated turf and ornamentals develop healthier root systems. So they're less susceptible to disease and moisture stress. Chipco Microgreen Liquid: easy to use, effective and extremely economical.

Once you use a Chipco something, you'll use Chipco everything.

Rhodia
CHIPMAN DIVISION

For More Details Circle (105) on Reply Card

Government News / Business

A Clinton, Massachusetts firm turned over $10,000 to EPA in the largest civil settlement ever reached under the Federal Insecticide Fungicide and Rodenticide Act. EPA filed a 12-count complaint against the Van Brode Milling Co. of Clinton on May 14 charging that the firm had made three shipments of an unregistered and misbranded pesticide product. EPA claimed the product was not registered under federal law and the front label did not contain required cautionary statements; did not contain a list of ingredients nor concentration of ingredients; did not list the volume or weight of the product. The shipments were of a product called "Water Purification Tablets."

Alleged antitrust violation charges were dismissed against Monsanto Co. recently. The jury trial centered around allegations that Monsanto's marketing practices in the distribution and sale of its agricultural herbicides to distributors were in violation of federal antitrust laws. The case was brought against Monsanto by Reed Brothers, Inc., Winterset, Iowa. Reed claimed conspiracy relating to alleged territorial and customer restrictions.

EPA's August 2, 1974 intention to suspend label registrations of aldrin and dieldrin will not effect its manufacture or use in the commercial pest control industry, according to a Shell Chemical Co., spokesman. "Although the EPA proposal is to suspend other label registrations of aldrin and dieldrin, it is the intent of Administrator Train to permit the sale and use of labelled, formulated stocks of aldrin and dieldrin on hand as of the effective date of the suspension order proposal," he said. "Thus the sale and application of properly labelled formulations of aldrin and dieldrin for other pest control applications such as soil insect control on turf and nurseries,....will be permitted until existing formulated stocks are depleted."

A Standards Advisory Committee on Hazardous Materials Labeling was named by The Department of Labor. OSHA boss, John H. Stender, said the committee will develop and recommend to OSHA standards for categorizing and ranking hazards of industrial materials. They will also recommend required warnings and safe handling procedures, to protect employees from toxic substances. The 15-member panel includes four representatives each from employees, employers and the federal government, one representative of state government and two from general public.

OSHA is preparing an environmental impact statement of a proposed standard for worker exposure to carbon monoxide. They are particularly interested in receiving public comments and information reguarding the substance.

Section Four of the revised Federal Insecticide, Fungicide and Rodenticide Act dealing with certification standards for commercial pesticide applicators becomes final October 1974. Deadline for public comment was March 1974.

A burst of brilliance...
Fylking for the World's Fair!

Fylking Kentucky bluegrass is a superior, elite bluegrass that burst like a star on the scene in the sixties!

Since then Fylking has established records making it the perfect choice for the official grass at the environmental World's Fair, Expo '74.

Fylking has proven to have superior resistance to disease and drought; withstands traffic. Its thickly woven rhizome root system develops dense sod so quickly Fylking can be lifted in 90 days. Fylking can be mowed at 3/4 inch (even 1/2 inch) and thrive. It absorbs carbon dioxide pollutants, gives off oxygen, cools air by releasing water vapor.

A superior mixer, Fylking greens up earlier in spring, stays greener in summer heat, remains green longer into fall.

Choose Fylking and your customers are getting a grass good enough for a World's Fair!

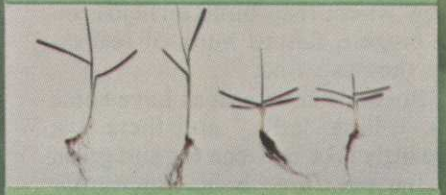
0217

FYLKING KENTUCKY BLUEGRASS

U. S. Plant Patent 2887

Another fine product of Jacklin Seed Company

Fylking's rhizome root system develops so thickly, under ideal conditions sod can be lifted in 90 DAYS.



Low growth, short leaf sheaths and abundant tillering of Fylking (right) compared with another elite bluegrass plant.

Cross section displays thick, luxuriant turf, fine leaf texture and brilliant green color of Fylking.

For More Details Circle (121) on Reply Card

'MY REASONS FOR TREES'

Richard Boehm is a man who loves trees.

He would love them even if he didn't need them, but as superintendent of the Wright-Patterson Air Force Base Military Golf Course he feels trees are not just nice to have but an absolute necessity.

So necessary that in his first year, he put out about 490 new trees. That was only more than twice as many as started with. So far this year he's put out fifty more.

The course is directly across a road from the flight line, and you know where they build airfields: on the biggest, flattest hunk of real estate they can find.

Boehm's course does have some low, rolling "hills," and there is a nice little lake between tee and green of one par three hole, but mostly it's next thing to runway flat.

Fairways going in opposite directions are often separated only by a narrow rough and out-of-bounds markers . . . or were, until Boehm started setting out his trees.

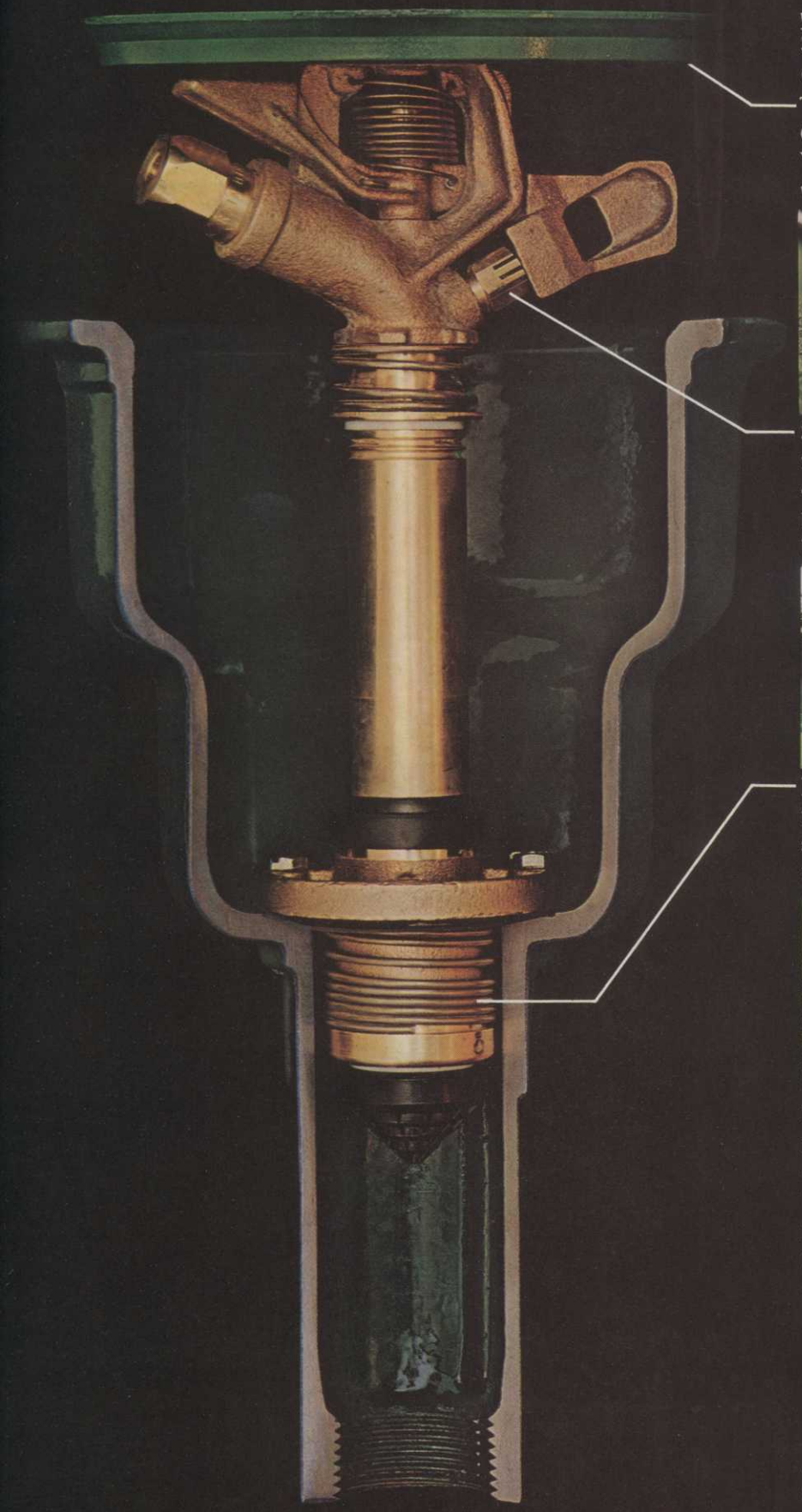
Now those trees delineate the fairways, decorate the tees and greens and do their part to make sure golfers use and hone their skills.

"There are a number of reasons

(continued on page 27)

Superintendent of Wright-Patterson Air Force Base Military Golf Course, Richard Boehm (foreground), checks the installation of tree fertilizer. Below: Eliminating time-consuming trimming around trees is accomplished by applying Casoron herbicide around the base. Boehm claims this practice eliminates about 90 percent of all hand mowing.

And the green grass grows all around



Anyone can show you lush, green grass—on someone else's course. Rain Bird shows you the exclusive features of our Pop-up Sprinkler, Model 51, that let you grow your own. For instance...

The highest pop of any sprinkler (2-5/16"). Grass can't distort the distribution pattern. You get uniform growth—no dry rings or wet spots.

Special nozzle features assure a tight, wind-resistant stream for longer throw and equally efficient close-in watering without puddling. That means even growth throughout a greater area.

Positive retraction spring prevents heads from sticking up—a hazard to mowers and sprinkler heads. There's no danger of missed waterings or cuttings.

Positive seal features mean maximum pressure through the nozzles—with easy accessibility of parts promoting faithful maintenance.

Don't settle for pretty pictures. With Rain Bird at work, you can see all the lush, green grass you like. It grows all around—all around your course.

RAIN BIRD®

Glendora, California 91740

Protection, Service and . . . Profit

Everybody stands to gain from a reported trend in our industry — a noticeable increase in purchase of lightning protection materials for trees by arborists and supply houses. Obviously, a growing number of tree protection systems are being installed by people in an excellent position to do so properly and profitably — arborists or tree experts.

The benefits to customers are great for lightning is a major crippler and destroyer of trees and the danger is greatest to those shade and specimen trees that are oldest, tallest, and most valuable. Future generations benefit, too, when historic and irreplaceable trees are protected.

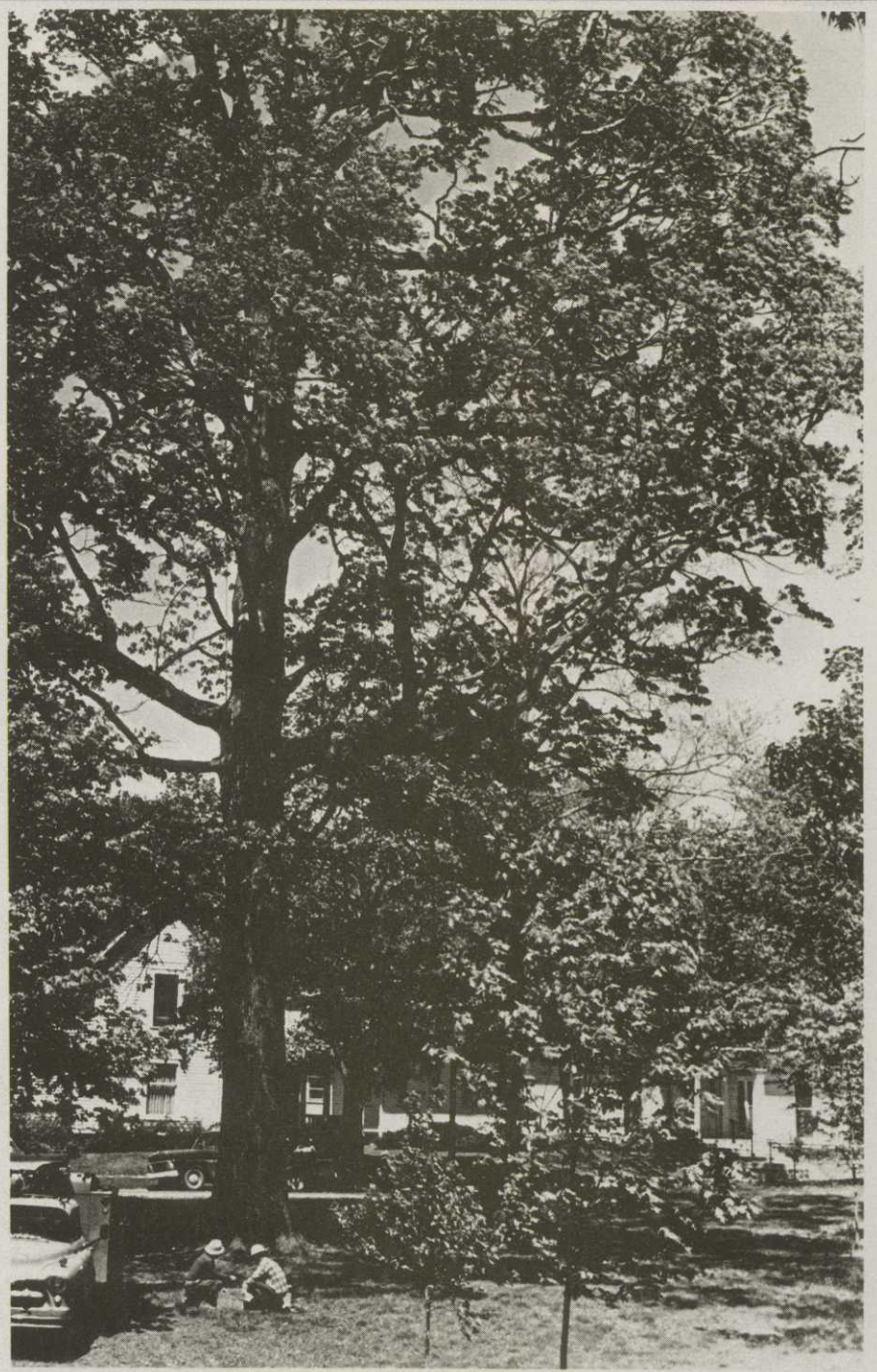
And there are at least a half dozen advantages for us. I have been interested in lightning protection for valuable trees since my early training in the '30's and feel an obligation to advise customers to protect their trees against this danger. We have found that we have gained in the following ways from our lightning protection work with trees:

1. Added business is gained without much additional investment for our trucks, ladders and tools are largely the same.

2. Installation techniques and skills also fit our current knowledge and training. Methods of fastening equipment to trees are quickly learned by our crews. In fact, a skilled climber is in demand in the lightning protection installation business as well as in ours.

3. Lightning protection work is profitable for manufacturer-suppliers furnish counsel and even layouts, as well as special materials when and as needed.

4. Sales leads come naturally and easily for customers whose trees have been damaged by lightning come to us.



The bigger and more valuable the tree, the likelier target it is for lightning injury or destruction. This large white oak in Indiana, a huge specimen of the species found to be struck most often, is in an area of above-average thunderstorm activity. Its protection was a sizeable job.

By JOHN Z. DULING, Duling Tree Expert Co., Muncie, Ind.

Lightning protection installation comes naturally. It fits the knowledge, tools, skill and experience of tree climbers.

This is a lightning protection air terminal, manufactured and designed specially for trees.

5. There is great satisfaction, I find, in furnishing to customers a means of preventing damage, as an alternative to repairing it after lightning has struck, provided it is repairable.

6. Finally, lightning protection materials, equipment, sales, methods and manpower all fit so well with our basic business that it can be encompassed profitably in an over-all business sense. You can offer a valuable service as a profitable expansion

Why and How Lightning Strikes

Lightning strikes trees because they are better conductors than air. Trees most likely to be struck are lone trees, the tallest in a grove, those at the edge of a grove toward an approaching storm, and trees located close to buildings where wiring or plumbing might enhance ground conductivity.

From thousands of lightning property losses reported over a two-year period, the LPI picked 1,000 losses, large and small, in which the lightning bolt's point of entry into the house was known. In 112 of those cases, or 11.2 percent, the bolt first struck a tree, then flashed to the house in search of better ground.

Lightning codes require the house to be fully protected with separate protection on each tree taller than the house which is within ten feet of the building.

Safety a Major Factor

The need to preserve trees of historic or sentimental value has, in the past, been the main motivation for installing protective equipment. However, other factors, such as the desire to protect buildings, cars, and people from the damaging side effects of a lightning bolt striking a tree may enter into the picture.

From 80 to 90 percent of all live-

stock deaths in the United States are caused by lightning bolts. Among cattle, one-third of such deaths occur under trees where the animals have sought shelter.

It is reported that more oaks are struck than any other species. But, there may be more oaks in heavier storm areas. All other factors equal, a tulip tree in a grove of trees containing all species is said to be the likeliest target.

A study has shown that the species most often struck by lightning to be in this order: oak, elm, pine, tulip tree, poplar, ash, maple, sycamore, hemlock, and spruce. Species struck least often are beech, birch, and horse chestnut.

Golf courses lead as sites of outdoor lightning casualties, both those under trees and in open shelters; course owners could equip trees, as well as shelter houses, with lightning protection. So could picnic ground owners, park boards or managers and many home owners.

Probably the biggest single factor in the increase in lightning protection installations is the fact that a turning point has been reached where generally it is more expensive to remove a lightning struck tree than to protect one.

In new outlying residential areas, particularly, real estate appraisals put values on trees that, when viewed against their increasing vulnerability to lightning as they grow taller, makes protection very wise and desirable.

How Installations Are Made

There are several codes and standards covering lightning protection installations for trees. The National Arborist Association now has a standard; the National Fire Protection Association's Lightning Protection Code has a section on tree protection, as does Underwriters Laboratories' Master Label Requirements. The Lightning Protection Institute's new Code includes this tree protection standard:

One main cable should be coursed from the air terminal at the top of the main trunk or branch to the ground terminal. Acceptable secondary conductors should be coursed from miniature branch points, as far out on the main branches as possible to the main conductor on the tree trunk.

To avoid possible injury to roots by locating depth grounding near trunks of trees, the conductor should be extended out and away from the base of a tree in a shallow trench to a distance of not less than 12 feet or to the extremity of the overhanging branches. This conductor should terminate in a ground terminal. (It should be kept in mind that usually the underground spread of the roots of the tree is equal in area to the spread of the tree branches above ground.) Depth groundings should be made outside the area of the root spread.

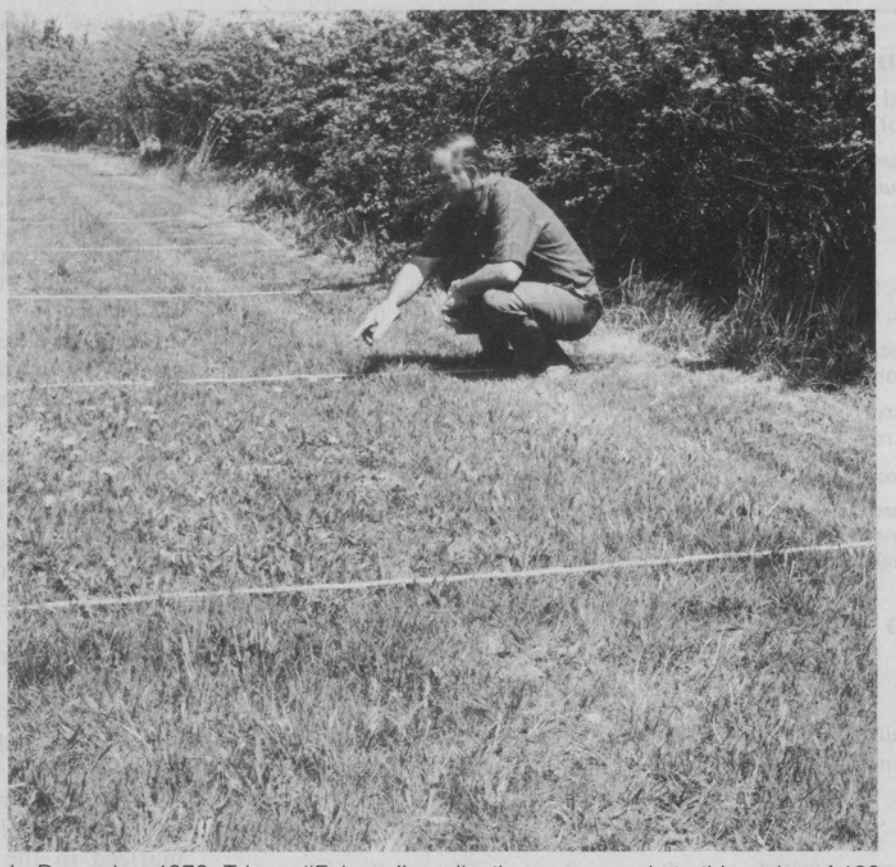
If the grounding on a protected building is within 25 feet of the tree, the two systems should be interconnected. If the tree or grounding of the tree is within 25 feet of a water pipe or a deep-well casing, a connection should be made between them.

Trees with trunks which exceed 3 feet in diameter, and which have extra long branches, should have two down conductors. They should be led down opposite sides of the tree and connected to the two ground terminals. These two ground terminals may well be joined by a circular or semi-circular conductor or a counterpoise buried in a shallow trench.

If there are several trees in a row (all major trees), the ground terminals of two trees not more than 80 feet apart may be interconnected by a trench conductor coursed to the base of each intermediate tree. The down conductor of each intermediate tree may connect with the 'trenched' interconnecting conductor. This practice avoids making independent groundings for each tree.

According to Code recommendations, two down-conductors are needed for large trees having trunks more than three feet in diameter. Cables lead from air terminals at top and on main branches to at least two grounds, located outside main root system.

This outstanding banyan tree in Cypress Gardens, Fla., is now protected against lightning. Installation was made during the National Arborist Association meeting in Tampa last winter.



In December 1973, Trimec "Fairway" applications were made to this series of 100 square foot test plots in 9 replications for "heavy" rate and 5 replications at normal dilution. The plot in the foreground and the one immediately behind the figure were treated. A check plot is in front of the figure.

Cool Weather Weed Control

By ROBERT W. SCHERY, Director, The Lawn Institute

We have had great success with late autumn or early winter broadleaf weed control, using a synergistic combination of herbicides of the Trimec or Trex-San type. These effective broadleaf weed controls widely used on golf courses seem destined for homeowner availability as well.

The basic components are the well-proven 2,4-D, MCPP, and dicamba herbicides. They are carefully combined in proportions that research has proven especially effective, resulting in a formulation that "packs more power" than the sum of its components. This is synergism, of course, in which two or more compounds working in tandem enhance the effectiveness of one another. As a result Trimec usually controls more weeds, at lighter rates, than would an equivalent concentration of any single component, — and with consequent greater safety. For added assurance on "touchy" species such as bentgrasses, a special "Bentgrass" formulation steps up the MCPP proportioning over that in the "Fairway" formulation so much used for bluegrass-based sods. Still a third formulation is offered for southern grasses such as St. Augustine. In all cases the herbicides come as a stabilized concentrate requiring only addition of the requisite amount of water. This avoids "workshed chemistry" difficult for inexperienced help unfamiliar with mixing accurately compounds of varying strength and formulation.

At the Lawn Institute we have been well impressed through the years with "season-end" control of broadleaf weeds. Sprayings made earlier — in late summer or autumn — kill existing weeds, of course, but seem not to catch the late-starting dandelions, plantains, chickweeds, veronicas, and suchlike. Measured by the frequency of weeds in the next spring's lawn, treatments made after mid October have usually shown up better than earlier ones. Not only will the later treatment conquer almost all of the weeds destined to sprout for the year, but it takes advantage of a relatively slack season (when mowing is through, and labor demands have materially eased). Phenoxy herbicides alone are not too potent in cooler weather, so that certainly late treatment should include some dicamba. Although Trimec-type formulations are essentially non-volatile, even in warm weather in my experience, an added safety factor with late-season use is that the deciduous ornamentals have finished their growing season and will not sustain drift damage such as might occur when buds are bursting and tender new foliage is exposed.

Although herbicidal control of winter weeds such as annual veronica, rosette crucifers, and volunteer dandelions in shrub beds as well as in lawns had proven most successful, we decided to conduct more elaborate late-season testing in 1973. Thus in early December Trimec

WEEDS CHECKED	REPLICATES 1	2	3	4	5	6	7	8	9	TOTAL
Plantago spp., treated	1	22	33	30	6	8	12	7	7	127
Plantago spp., control	11	13	20	40	43	39	10	35	7	218
Dandelion, *Taraxacum*, treated	1	1	1	3	2	1	1	17	8	35
Dandelion, *Taraxacum*, control	6	10	14	12	12	3	16	40	40	153
Prunella, treated	0	4	12	20	0	0	0	8	0	44
Prunella, control	18	5	100+	0	0	17	30	4	0	174+
Wild Carrot, *Daucus*, treated	0	0	0	0	0	0	0	0	0	0
Wild Carrot, *Daucus*, control	10	0	0	2	2	0	0	0	0	14
Other *Compositae*, treated	0	1	1	0	0	0	0	4	3	9
Other *Compositae*, control	3	0	3	2	0	1	5	4	5	23
Rushes, *Juncus*, control	} No talley								Almost none	
Rushes, *Juncus*, control									Abundant	

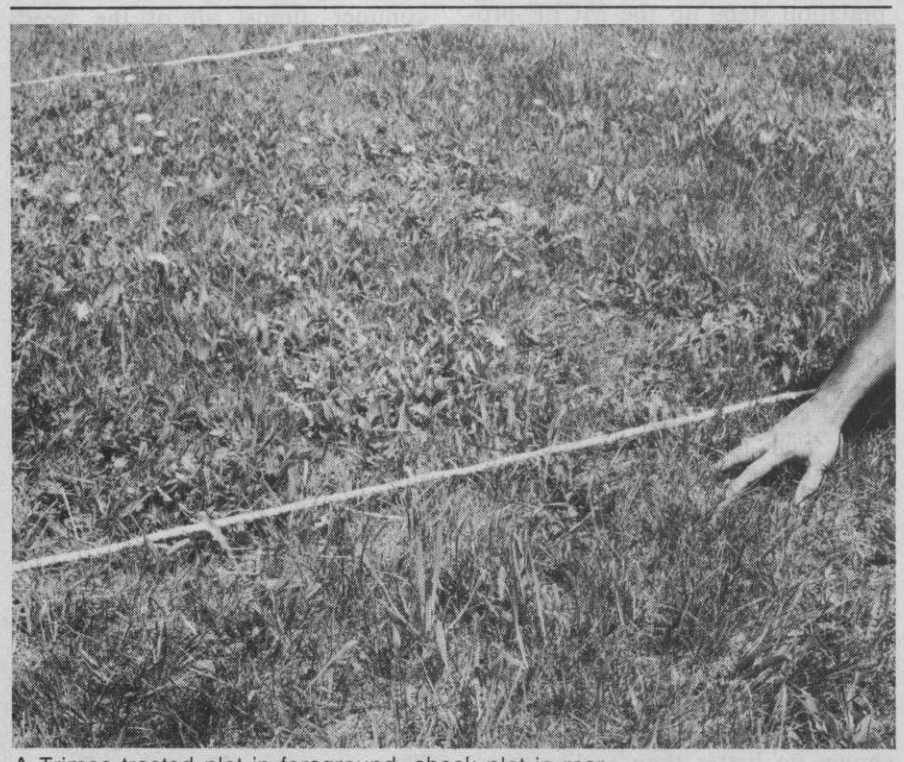
Weeds in all treated plots, 215 — in all controls, 582

Table 1. Exemplary weed counts on April 29, for treatments made previous December 1, using 6 ounces of Fairway Trimec in 3 gallons of water sprayed over 1,000 square feet. Talleys are from "quick counts" in a 5-foot band across center of plot.

WEEDS CHECKED	REPLICATES 1	2	3	4	TOTAL
Plantago spp. treated	32	20	22	16	90
Plantago spp. control	11	5	6	34	56
Dandelion, *Taraxacum*, treated	15	6	0	1	22
Dandelion, *Taraxacum*, control	13	31	19	3	66
Prunella, treated	0	0	0	0	0
Prunella, control	13	75	0	21	109
Other *Compositae* & misc., treated	0	2	3	0	5
Other *Compositae* & misc., control	8	13	2	0	23
Rushes, *Juncus*, treated	} No talley				Almost none
Rushes, *Juncus*, control					abundant

Weeds in all treated plots 117 — in all controls 254

Table 2. Exemplary weed counts on April 29, for treatments made previous December 2, using 2 ounces of Fairway Trimec in 3 gallons of water sprayed over 1,000 square feet. Talleys are from "quick counts" in a 5-foot band across center of plot.



A Trimec treated plot in foreground, check plot in rear.

"Fairway" applications were made to a series of 100 square foot plots in 9 replications for "heavy" rate and five replications at "normal" dilution. This particular Trimec formulation, on an active ingredient basis, is 27.6% 2,4-D, 13.8% MCPP, and 2.8% dicamba. Plots alternated with controls of equal size, and were hand sprayed at the rate of 6 ounces of Trimec in 3 gallons of water per 1,000 square feet for the heavier rate (2 ounces for the lighter rate). The test turf had been mowed but not weeded nor fertilized through the exceptionally rainy Ohio summer of 1973. Several severe nightly frosts had occurred, but the season as a whole was moderate and amply moist. Such grass as was present remained quite green, but warm-weather weeds were giving ground. The most evident broadleaf weeds in the test area at this time were narrowleaf plantain *(Plantago lanceolata)* and selfheal *(Prunella vulgaris)*.

Results from these treatments, as measured April 29, 1974, are summarized in the tables. The photographs show that weed control from the December sprayings stood out quite well into spring, even though any treatment is bound to be "temporary" where little grass exists to fill space vacated by the weeds. Even so, weed count showed about a two-thirds reduction at the heavier herbicide rate, and about half at the lighter rate. Plantains (both *P. major* and *P. lanceolata)* were the weeds least controlled, perhaps indicating the importance of dicamba in the formulation (dicamba is not particularly effective against plantain). But what was most surprising was thorough elimination of rushes *(Juncus spp.)* in the treated plots. Rushes are bunchy monocots looking a lot like fine fescue when young, but stiff and hard to mow. Rushes had become quite numerous in the test area during the wet cycle of 1972-73, but (mixing among a scattering of grasses) were paid scant heed, overshadowed as they were by the broadleaf weeds. If the rushes had been included in our tally, weed control statistics would have been even more impressive, since there were literally hundreds of rush plants in each of the check sections, almost none in the treated sections. Of course there is no damage to monocots in the grass family from the Trimec assemblage of herbicides.

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For More Details Circle (115) on Reply Card

ASPA Convention Report

The Growing Sod Market

"The market is so good but the soil is so bad, that we would grow sod on the walls to meet the demand," John R. Hall said as he addressed members of the American Sod Producers Association (ASPA) at its summer convention July 16 to 18 at New Carrollton, Maryland.

Hall, secretary of the Maryland Turfgrass Association and turfgrass specialist at the University of Maryland, outlining the sod market in Maryland said the state's 80 sod growers made sod production the fourth most important agronomic crop last year. He also presented the group with statistics on housing starts, average family income and potential population growth to prove just how good their commercial sod market is. Maryland's Sod Certification Program, Hall continued, stimulates good management practices, provides for the best varieties of sods and good pest control; and benefits not only the producer but the installer and consumer.

But the modern sod grower is not just confronted with ever-changing problems of an uncertain economy. During their annual business meeting Wednesday morning, members faced a dilemma of serious concern to their national organization. Jack Kidwell, then-president of the association, asked members to interpret a section of their basic constitution that could alter the course and function of ASPA.

In brief, members were asked to take a position on whether or not to include sod installers as "incidental to the production of sod and thus remain within the definition of agriculture."

Several members voiced opinions pro and con. Some questioned the position as being prejudicial to the interests of their customers, namely sod installation contractors. Others cited the ASPA constitution defining a member as anyone involved in the 'production, maintenance or marketing of sod.'

Kidwell said the producer members would receive a questionnaire asking them to indicate their position on the issue. The ballots would be tabulated and the associa-

(continued on page 26)

A special exhibit area in hotel featured the latest developments in sod harvesting and handling equipment. Here ASPA members chat with commercial representatives.

Under the critical eye of sod producers and installers, this harvester gets a tough workout on some of Maryland's dry, rocky soil. This equipment demonstration took place at Dick White's Sod Farm.

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meeting dates

Virginia Tech Field Days, Turf Research Center, Blacksburg, Va., Sept. 18-19.

International Pesticide Applicators Association, convention, Seattle, Wash., Sept. 18-21.

Mississippi Turfgrass Conference, Holiday Inn, Biloxi, Miss., Sept. 23.

Arkansas Turfgrass Field Day and Conference, Little Rock Country Club, Little Rock, Ark., Sept. 24-25.

American Association of Botanical Gardens and Arboreta, annual meeting, Sheraton Hotel, Boston, Mass., Oct. 4-8.

New Jersey Golf Course Superintendents Association, turfgrass supplies and equipment field day, Montclair Golf Club, West Orange, N.J., Oct. 7.

National Institute of Parks and Grounds Maintenance, fourth annual meeting, Pittsburgh Hilton, Pittsburgh, Pa., Oct. 7-10.

American Horticultural Society Congress, Washington, D.C., Oct. 9-12.

Rocky Mountain Regional Turf Equipment and Product Show, Adams County Fairgrounds Exhibit Hall, Brighton, Colo., Oct. 10.

Southwest Turfgrass Conference, New Mexico State University, Las Cruces, N. Mex., Oct. 10-11.

Central California Regional Meeting, Western Chapter of the International Shade Tree Council, Community Center Bldg., Reedley, Calif., Oct. 11.

Hortiscope International Short Course "74" (Oct. 10-12) and **1974 Florida Nursery and Allied Trades Show** (Oct. 11-13), Curtis Hixon Convention Center, Tampa, Fla.

Southern California Turfgrass Council, 14th annual exposition, Orange County Fairgrounds, Costa Mesa, Calif., Oct. 23-24.

Central Plains Turfgrass Conference, K-State Union, Kansas State University, Manhattan, Kans., Oct. 23-25.

Tidewater Shade Tree Conference, Norfolk Botanical Gardens, Norfolk, Va., Nov. 12.

8th Annual Turfgrass Conference, Clemson University Cooperative Extension Service, Clemson, S.C., Nov. 12-13.

New Jersey Turfgrass Expo '74, educational conference and trade show, Sheraton Poste Inn, Cherry Hill, N.J., Dec. 2-5.

Midwest Association of Golf Course Superintendents, 22nd annual turf clinic, Medinah Country Club, Medinah, Ill., Dec. 3.

Ohio Turfgrass Conference and Show, Ohio State University, Columbus, Oh., Dec. 3-5.

National Agricultural Aviation Association, convention/exposition, Las Vegas, Nev., Dec. 3-7.

Delaware Turfgrass Conference, John M. Clayton Hall, University of Delaware, Newark, Del., Dec. 9.

New England Chapter, International Shade Tree Conference, 11th annual meeting, Kings Grant Motor Inn, Danvers, Mass., Dec. 11-12.

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industry news and newsmakers

Scientist Studies Pollutant's Effect on Woody Plants

Plant physiologist Bruce R. Roberts of USDA's Agricultural Research Service (ARS) is finding significant differences in the abilities of woody plants to take up sulfur dioxide (SO_2), a major air pollutant, from the space immediately around their leaves. Red maple, white birch and sweetgum seedlings have been shown to take up more SO_2 than rhododendron, white ash and azalea seedlings.

Using controlled temperature, light and humidity in a growth chamber at the ARS Shade Tree and Ornamental Plants Laboratory, Delaware, O., Roberts is gaining basic knowledge about relationships between woody plants and air pollution. He hopes this knowledge will enable him to recommend to city planners which trees, shrubs or combinations of plants would be most suitable as "pollution fighters." New understanding also may help scientists find ways to protect plants from pollution damage.

Of the major air pollutants — ozone, SO_2, nitrogen oxides, ethylene, and fluorides — Roberts chose to work principally with SO_2. This pollutant can be used as a radioactive tracer to find out what happens to the gas after it enters the woody plant. Roberts has observed that SO_2 molecules are chemically altered soon after they enter the leaf — first they are oxidized to sulfites and then to sulfates. Some sulfuric acid may be formed, which might account for some of the pollution damage to plants, Roberts said.

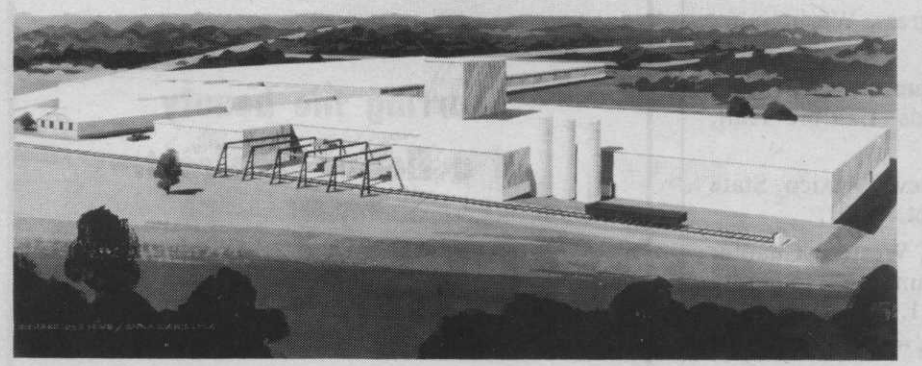
Photosynthesis can be affected by SO_2 pollution. The pollutant damages chloroplasts in the plant cells where photosynthesis takes place. Roberts hopes to be able to diagnose the type and extent of pollution damage by examining affected cells.

Studies have indicated depression of photosynthesis. Red maple seedlings fumigated with 1 ppm of SO_2 for four to six hours took up slightly more carbon dioxide than unfumigated seedlings. In contrast, leaves of seedlings exposed to an SO_1 concentration of 6 ppm were severely damaged, permanently depressing photosynthesis. Seedlings exposed to 4.5 ppm were damaged, but their ability to photosynthesize rebounded rapidly.

Roberts' SO_2 experiments indicate that, unless plants are injured by the pollutant, uptake remains constant — at least over a six-hour period. In some species of woody plants, he observed that the amount of uptake varied little, whether they were exposed to SO_2 concentrations of 1 ppm or 0.2 ppm.

"We're not sure exactly what happens here," Roberts said. "I think it involves the pollutant's effect on stomatal opening."

Roberts theorizes that stomates in the leaves of shade-tolerant trees may open and close faster, making these trees also more tolerant to pollution. If this theory is borne out in further studies, plant breeders will be better equipped to select trees for pollution tolerance.



Construction has started on this all-electric foundry for The F. E. Myers & Bro. Co., Ashland, Ohio. The $5 million, 110,000 square-foot facility is scheduled for completion in late summer, 1975.

Two More Seasons of Tight Fertilizer

The nation can expect continued tight fertilizer supplies through 1975 and 1976, said Robert C. Gunness, vice chairman of Standard Oil Company (Indiana).

Gunness said that nitrogen fertilizer shortages have developed during the 1973-74 season both in the U.S. and throughout the world, and the outlook is for continued domestic shortages during the 1974-75 and 1975-76 seasons. Domestic demand has risen sharply in the past two years. While Gunness views the probable shortfall at closer to five percent, he said estimates of the current U.S. shortage vary from five to 15 percent.

U.S. ammonia capacity, the source of nearly all nitrogen, has been flat since overexpansion in the 1960's brought on drastic declines in ammonia prices. One new plant is scheduled for the early part of 1975, but no further additions to domestic capacity are expected until 1978. The result is the U.S. will have to look to increased imports to meet the higher demand for nitrogen fertilizer over the next several years. With foreign supplies of nitrogen also tight, it appears unlikely that enough will be available on world markets to fully meet U.S. needs, Gunness said.

As for phosphate, Gunness said considerable additional capacity is scheduled to come on stream in 1974 and 1975, and the current shortages of about eight percent are expected to be eliminated by the 1975-76 season. Ample supplies of potash, both now and in future years, are expected because North American production capabilities, especially in Canada, are considerably greater than expected demand levels.

NASA's Quarantine Vans To House Plant Pathogens

Quarantine vans built for the astronauts have been "recycled" for use by the U.S. Department of Agriculture (USDA).

In 1971, returning Apollo astronauts were picked up from the space capsule by helicopter and were transferred immediately to $140,000, six-ton, 30-foot mobile isolation vans. En route to more spacious quarters at the Lunar Receiving Laboratory in Houston, Tex., the astronauts spent four days in the vans, transported by ship and flatbed trailer-trucks. Today two of these four vans are being readied for a new kind of tenant — foreign plant pathogens for research on biological control of agriculturally destructive weeds.

A gift from the National Aeronautics and Space Administration (NASA) to USDA's Agricultural Research Service (ARS), the moon mission vans have rolled again, this time to the Southern Weed Science Laboratory in Stoneville, Miss. A third van is in the Smithsonian Institution and the fourth remains in Houston.

In Stoneville scientists will test plant pathogens such as the rust fungi, *Uromyces rumicis,* on curly dock *(Rumex crispus),* and *Puccinia chondrillina* on skeletonweed *(Chondrilla juncea).* Curly dock is found nationwide and is a problem in the humid South. Skeletonweed is a problem in Washington, Idaho and in several counties in California. The weeds compete for space, nutrients and water causing increased expense for chemical controls.

Because curly dock and skeletonweed have both been introduced from foreign sources without their normal complement of natural enemies, and because native pathogens have not been able to control the weeds over large areas, foreign pathogens will be imported from those countries where the weeds are native. They will then be isolated in the NASA quarantine vans, and tested for their ability to attack and damage only the host weed and their inability to damage other plants. After the pathogens have been thoroughly evaluated under quarantine conditions they may be released to help control the weed species.

The project will include studies on other weeds such as prickly sida, velvetleaf, spurred anoda, morning glory and nutsedge to determine if there are native pathogens with potential for biological control.

Plant Pathologist Howard D. Ohr is the ARS project leader in the study at the Stoneville laboratory.

Ciba-Geigy/Funk Merge

Ciba-Geigy Corporation announced that Funk Seeds International, Inc. has become its wholly owned subsidiary as the result of a merger of Funk and the agricultural division of Ciba-Geigy. Under the terms of the merger, stockholders of Funk prior to the merger are entitled to receive $17 in cash for each share held.

Army Weed Controllers Transferred to USDA

Five senior scientists from the Army's Vegetation Control Division, their support staff and an installation are being transferred to the U.S. Department of Agriculture (USDA) to begin new research on weed control.

The scientific team is headed by Dr. Robert A. Darrow. Office, laboratory and greenhouse facilities, and a 140-acre research site near Frederick, Md., needed to accommodate the group are also being transferred to USDA without additional capital investment.

The unit has a data storage and retrieval system that has information on the herbicidal activity of about 31,000 compounds. With this system, USDA will be able to increase the scope of its weed research already being done by the Agricultural Research Service (ARS). The laboratory will operate as an installation of the Chesapeake-Potomac area of the ARS northeast region, as an addition to ARS's existing plant disease research laboratory at Frederick.

A major research objective for this small contingent of scientists will be to develop technology for either inhibiting weed-seed germination or to stimulate germination at times of the year unfavorable to weed survival.

The lack of preventive weed control technology hinders efforts to reduce the cost of controlling weeds and also reduces the effectiveness of weed management programs. Herbicides are now applied to more than 160 million acres. The need for such wide applications could be reduced if scientists assigned to this research mission succeed in finding ways to reduce the vast amount of weed seeds in the soil and to prevent their recycling without adverse environmental effects.

Leo Donahue (left), administrator and legislative liaison for the American Association of Nurserymen (AAN), reviews the AAN's testimony for increased research funds with Congressman William J. Scherle, Republican from the Fifth Congressional District of Iowa. Scherle is a member of the House Appropriations Subcommittee on Agricultural, Environmental and Consumer Protection, and a long-time friend and supporter of the nursery industry.

Hyacinth President Favors Certification

Certification will benefit pesticide applicators. It will bring an air of professionalism. It will set the applicator aside from untrained labor. That's the thinking of Alva P. Burkhalter, president of The Hyacinth Control Society, soon to become The Aquatic Plant Management Society, Inc.

Besides professionalism, Burkhalter believes certification will offer the applicator a better salary, better advancement potential and more job security.

Burkhalter opened the recent annual convention of the Society at Winter Park, Fla. by saying that certification will also stimulate interest in the area of biological control, leading to "integrated management of aquatic control and encouraging expansion into other fields."

Switching to the energy crisis, he warned delegates to "avoid an 'attitude shortage' or an 'internal energy crisis' . . . and get back to a hustling attitude in this Society."

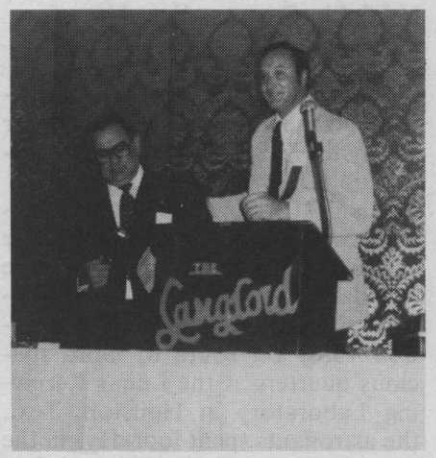
The 1974 registration figure was 306 at this 14th annual convention. This was a near 30 percent increase over last year. Registered participants included delegates from several foreign countries and some 20 states. Research, sales, development, and industrial, governmental and educational progress highlighted the four-day sessions.

Appearing for the Environmental Protection Agency, John Ritch, director of the EPA Registration Division, stated "The registration division of EPA doesn't know all pesticide applicator problems, and thus doesn't have solutions, but," he said, "we're establishing contacts and learning."

According to Ritch, EPA's intent regarding federal registration is not to eliminate pesticides, but "that the use of pesticides be carefully managed to protect health and property with minimum adverse effects on the environment."

Robert D. Blackburn, formerly at the Aquatic Plant Management Laboratory of the USDA and now president of Florida Aquatic Weed Control, Inc., a private firm, traced the history of the battle against aquatic weeds in Florida and internal strifes which have delayed control. Blackburn said, "While we argued in courts about what to do, water hyacinths continued to grow . . .

"We didn't carry out what we originally set out to do — management of aquatic weed control. We have to have a management program. We've got to learn to work together," he said.



Alva P. Burkhalter (right) turns the gavel over to L.V. Guerra, the Hyacinth Control Society's new president.

According to Blackburn, answers to the problems of aquatic weed control lie in integrating mechanical, biological and chemical controls and not in political circles. "Let's resolve some of our controversy by face-to-face contact instead of political maneuvering," he said.

More than 50 papers were presented in concurrent educational sessions. The research sessions featured such topics as fungi and water hyacinths, future utilization of water hyacinths for proteins and energy, hydrilla in Iowa and chemical retardation of hydrilla growth.

Applicators' sessions were devoted to operations and field techniques and treated subjects such as weed control with the bifluid invert system, effects of laser radiation on water hyacinth, boating and aquatic weed problems and various means of algae control.

Highlighting the sessions was a joint panel on what chairman John Gallagher of Amchem Products, Ambler, Pa., termed the Society's "Watergate" — the pros and cons of the herbivorous white amur.

Panel speakers included Burkhalter of the Florida Department of Natural Resources, Bill Woods of the Florida Game and Fresh Water Fish Commission, David Sutton of the University of Florida, and John Stanley of the Division of Fishery Research, Bureau of Sport Fisheries and Wildlife, Stuttgart, Ark.

The panel indicated that introduction of the white amur into Florida is still an unresolved issue, with many questions yet to be answered as the program moves from laboratory to Florida waters.

This year's annual banquet was a buffet-style luau held poolside at the hotel. Members were treated to a diving exhibition by a local high school swim team. Banquet speaker William E. Fulford, state representative of District 40, Florida, spoke on "Weeds and Politics."

Once the controversial fish is introduced into Florida, the situation may be irrevocable, so many view absolute safeguards and answers to plaguing problems as a necessity.

At the annual business meeting, the following slate of officers was approved by the Society for the coming year: president, L. V. Guerra, Texas Parks and Wildlife Department, San Antonio, Tex.; first vice president, Ray A. Spirnock, Central and Southern Florida Flood Control District, Lake Worth, Fla.; second vice president, Robert W. Geiger, The 3M Company, Pompano Beach, Fla.; past president, Alva P. Burkhalter, Tallahassee, Fla.; treasurer, Brandt G. Watson, Naples Mosquito Control District, Naples, Fla.; editor, David L. Sutton, Fort Lauderdale, Fla.; secretary, T. W. Miller, Lee County Hyacinth Control District, Fort Myers, Fla.; Nelson Virden of Jackson, Miss., and Kerry Stewart of Fort Lauderdale, Fla., as new members of the board of directors.

Next year the group will meet in San Antonio, Tex. Plans include a post-convention trip to Mexico City.

Society members listen attentively to the joint panel discussion on the pros and cons of the controversial white amur. John Gallagher of Amchem Products, Ambler, Pa., presided over the discussion.

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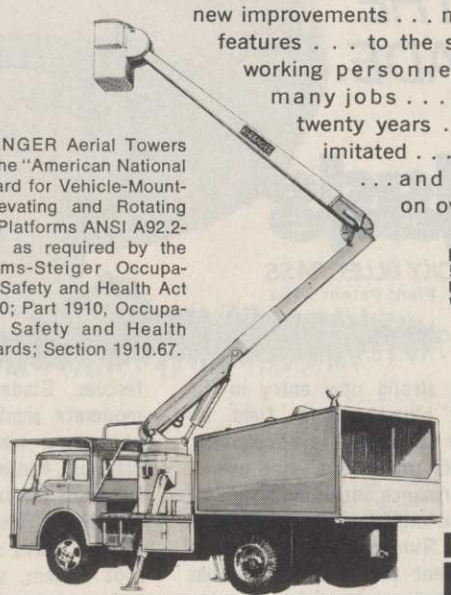

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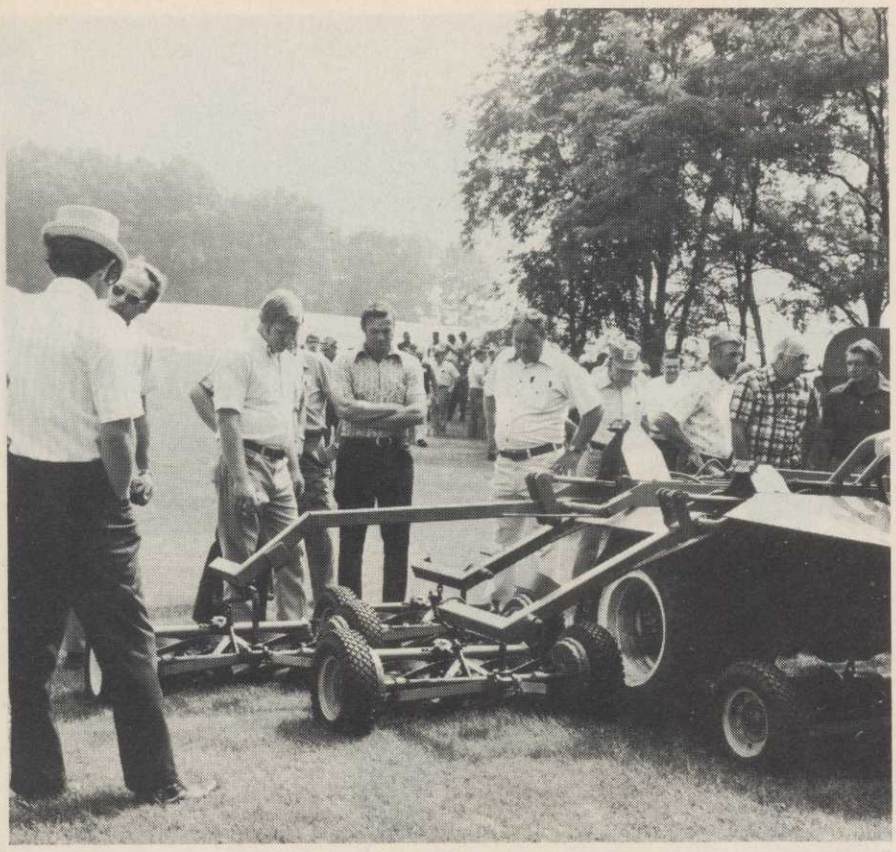


One of the specially designed gang mowers draws attention from the members. This mower and others were demonstrated at the Larriland Sod Farm. Also featured were PTO-driven sweepers and a small spraying unit.

SOD (from page 18)

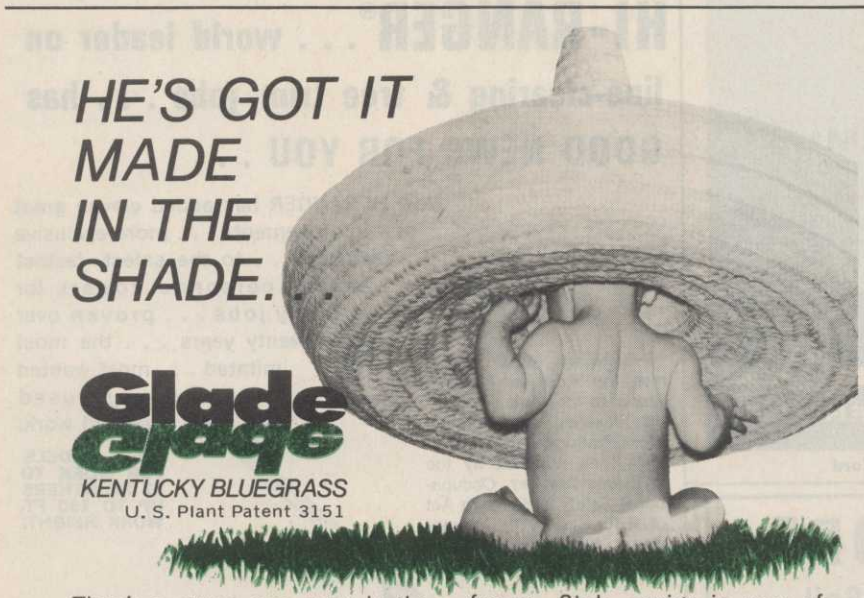
tion would take that position indicated by the majority of voters. Following reports from secretary Gerry Brouwer, treasurer John Nunes and executive secretary Bob Garey, the meeting adjourned.

The sod business is an outdoor enterprise and field demonstrations and tours largely occupied members. After the annual meeting, the members visited a number of Maryland sod farms.

First stop was Fairwood Turf Farm. A box lunch was served and participants were treated to demonstrations of the newest sod harvesting and handling equipment. Beck, Ryan, Princeton, Nunes, Brouwer and Finneyfrock operated their units on Maryland's typically rocky and dry soil. A new idea in fork lifts, the Frate Lift, designed by Brouwer, attracted attention. The yellow unit featured a three-wheeled chasis, and instead of being towed to the job site, the unit links up to the rear of a truck and lifts itself into travel position, eliminating towing.

Most equipment featured at the demonstration was in the form of improvements and optional equipment for already field-proven units. Specially designed gang mowers, PTO-driven sweeper units and a surprise razing by a crop duster airplane were featured at the Larriland Sod Farm. At Dick White's Sod Farm equipment also included Pyles, Allis Chalmers and Champ fork lifts, a Barnes tiller, a Jacobsen seeder and a Roterria irrigation unit. A Harley Stone Picker was demonstrated at Stedding Turf Farm.

Guest speaker at the banquet was Herbert Wallace, executive vice president of Hart, Schaffner and Marx. The newly elected officers are: president, Charles Davis, Wharton Turf Grass, Inc., Wharton, Tex.; vice president, Paul Florence, Marysville, Ohio; secretary, Charles Lain, Pine Island Turf Nursery, Inc., Sussex, N.J.; treasurer, Wallace Huggett, Huggett Sod, Marlette, Mich. New board of directors members include Norm LaGrande, Hendricks Sodding and Landscaping, Lincoln, Neb., and Thomas A. Thornton, Thornton's Turf Nursery, Elgin, Ill. Attendance at the meeting included 223 sod producers, 78 commercial representatives, 90 wives and children and 20 university members.



There's a strong new entry in the Kentucky bluegrass lawn field, selected for its attractive appearance, low growth profile and good overall turf performance, including an ability to grow in moderate shade. A selection from Rutgers University, Glade has excellent turf quality, and has demonstrated good resistance to important lawngrass diseases including stripe smut, leaf rust, and powdery mildew. Glade mixes especially well with other elite bluegrasses and fine fescues. Glade persists in areas of moderate shade where many other bluegrasses weaken because of too little sun. Nationally tested as P-29, it is one of the fastest germinating and establishing bluegrasses; quickly produces a heavy close-knit rhizome and root system, and a very attractive, leafy, persistant turf. Ask for new Glade for use in full sun or in mixtures with fine fescue for shade at your local wholesale seed distributor.

Another fine product of Jacklin Seed Company

TREES (from page 10)

for putting trees on a golf course," says Boehm. If trees are set out in the right places ". . . they define the hole and make a good backdrop for the hole. We try to keep nice open fairways with a few traps around the greens for the scenic value of that nice white sand. If a golfer hits down the fairway, he's got a nice easy shot . . . but if he hits out in the boonies he ought to be lost out there behind a tree. There are still some open areas, but I'm putting in trees to make those more challenging holes. Still, this is an easy course for the average golfer. Even with the trees he doesn't get penalized that much."

"I just want this place to look good and play good and be a good golf course, and the only way to do it is to define the holes. You've got a fairway on one side and a fairway on the other side and what's the use of playing one way when you might as well be playing with the other group coming the opposite direction? You don't want that; you want to be in your fairway and play your hole by yourself. You don't want to share it, except with your playing partners. Never with the party playing the next fairway."

It isn't just a matter of putting out any old tree for the sake of its being a tree. Variety and placement are important.

"I like color," says Boehm, "I like to put out the red maples and flowering trees; crabapples and purple plums. We get dark greens from our pines; red pine, white pine and scotch pine. We also use mountain ash, lindens, honey locust, sycamore and maples."

Boehm's trees are not little bitty ones. The smallest are 7-8 feet high and big enough to do some good for the course right now, although, he says, ". . . they gave us some little ones this year, so we found places for them."

You can't just stick in a bunch of trees and forget them.

Boehm says: "Some people don't believe in fertilizing trees." He says it as if he really means some people don't care about trees; perhaps consider them a necessary evil, existing mainly to make mowing and turf care more difficult, and in an age of soaring labor costs, more time-consuming.

It isn't so.

"Maybe you can ignore an established tree. Some big old river cottonwood with a massive root system isn't going to have any trouble finding nourishment. But a young tree — anything less than 8-10 inches in diameter — needs food."

The old, established methods of fertilizing trees take time. You can go out with an auger and bore holes and pour in bulk fertilizer. It works, but you need the auger, a crew to run it and it's time-consuming. If you broadcast fertilizer around the tree — enough to do any good — you either make the grass grow so much faster than surrounding grass that it's unsightly, or you put down too much and burn the grass. There was no easy way.

Now there is, says Boehm. "We use Jobe's Tree Spikes. As far as I know they're the only people making fertilizer in this form."

The spikes are fertilizer compressed into a stick with one end slightly pointed and a plastic cap on the other. "You take a box of spikes, a hammer and pound one spike into the ground for each inch of tree diameter. That's all it takes. Last year, after we put in all those new trees, I sent a three man crew out to fertilize and they were done in a day and a half. Seven hundred trees. I couldn't believe they'd done them all so fast, so I checked. They had," said Boehm.

"You can see the difference it makes. There are some places on the edge of the course where similar trees were put in on the other side of the road. Ours are greener."

What about time consuming close-trimming around trees? Its been all but eliminated. "We use Casoron, a granular type product which completely kills all vegetation but doesn't hurt the tree. You put it around in the winter, when the tree is dormant, using a little spreader of any type. In the spring we put wood chips around the trees so the dead grass won't look unsightly. We also use this treatment around out-of-bounds markers and buildings. You can mow right around them with a rough mower. It eliminates about 90% of all hand mowing. you still have to do some, but you can't imagine how much it saves.

"Of course any time you put out that many new trees, you're going to have some problems. That man out there on a seven-gang mower has to learn where each of those trees is, and how to make his cut so he gets close enough, but misses the tree. Sometimes the man on the mower runs over a tree. When that happens, I send him back out with a can of tree paint, have him paint it up and stake it, and let him know he'd better not do it again. They learn fast. That's another reason for big trees — because they're easier to miss — or should be."

Boehm doesn't neglect turf care, of course. He has established regular programs of soil testing, so he can give each part of his course exactly what it needs, and aerification, to relieve the compaction caused by the muckey, clayey soil and the very heavy use of the course.

EDITORIAL (from page 6)

This simply means that segmented lobbying — such as being done now by each little group — will never be wholly satisfying in terms of favorable legislation and/or rulings by EPA, OSHA, USDA, etc.

For a time we had hopes that this could be accomplished via a "Green Industry Council" in which every organized group — associations, societies, foundations and whatever — might serve as a communications and lobbying medium whereby forces necessary to achieve needed action could be raised. Now, we are not so sure. There appears insufficient interest to develop the type of council body which could conceivably coordinate the efforts of the segmented Green Industry. Funding is a further problem. We as a magazine are open to suggestion.

Kellogg bags it!

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organic nitrogen

The nitrogen that can be applied with the least danger of burning. No leaching either. Try it!

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25th Anniversary Planned

The Sprinkler Irrigation Association will celebrate its 25th anniversary during the annual convention to be held at the Contemporary Resort of Disney World in Lake Buena Vista, Fla., Oct. 27 to 30.

Convention activities are planned to portray the role that the Association has played in the growth of the sprinkler irrigation industry and to recognize those leaders in education, industry and government who have contributed to sprinkler irrigation progress and to the development of the Association.

Programs, registration information and room reservation forms for the convention can be obtained from the Sprinkler Irrigation Association, 13975 Connecticut Ave., Suite 310, Silver Spring, Md. 20906.

Biological Weed Control Proposed by Scientists

A new biological control for weeds, which would avoid the use of selective herbicides has been proposed by a Michigan State horticulturist and a Cornell University agronomist.

In the current issue of "Science," Alan R. Putnam and William B. Duke note the well-known phenomenon of allelopathy — that is, the ability of certain plants to inhibit the growth of other plants, such as weeds, by releasing chemicals toxic to other plants into the soil.

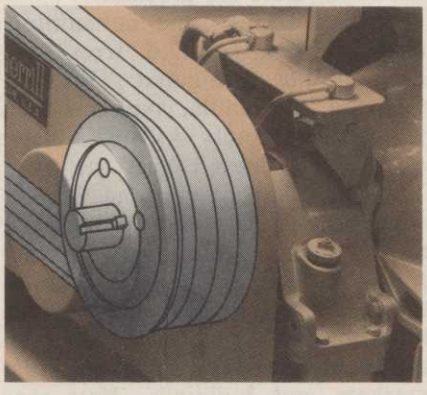
"If this allelopathy is an inherited trait, which is likely, attempts could be made to incorporate weed resistance into commercial crops in the same manner that insect and disease resistance were bred into plants," Putnam and Duke suggest.

Successful biological control of weeds has been limited to a few cases where insect predators have been introduced to reduce certain weeds. Plant scientists usually fight weeds by selecting strains for their ability to outgrow weeds, an advantage attributed to rapid growth.

Mitts & Merrill Brush Chippers For... better design... more efficiency

For more than 115 years Mitts & Merrill has been making specialized machinery for industry. A major part of our business is equipment to reduce scrap and waste. This experience is incorporated into design features on our brush chippers that result in higher efficiency and longer, trouble-free service for you. Only Mitts & Merrill brush chippers offer features like these:

Staggered knife pattern for smoother cutting action. Mounted on an all-steel cylinder that, even without an external flywheel, is heaviest in the industry. Each cylinder revolution gives more cuts, produces smaller chips of uniform size. Self-adjusting knives are reversible; give twice the service between sharpening.



Optional torque converter isolates engine and transmission from cutting shock to minimize maintenance. Makes operation virtually fully automatic; increases operator productive time. Available on all models.

• **Positive safety-lock pin** for greater operator safety • **Swing-away, folding feed chute** protects cutting chamber; allows instant access and increases maneuverability • **Heavy duty construction** includes coil spring, torsion-type suspension, and box tubular steel frame.

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Dept. WT 94, 109 McCoskry St., Saginaw, Michigan 48601

American Garden Products Names New Vice President

American Garden Products, Inc., producer and distributor of horticulture products and related items, announced that Peter J. West has been appointed executive vice president and chief operating officer. West, formerly on American Garden's board of directors, succeeds C. A. Hellar.

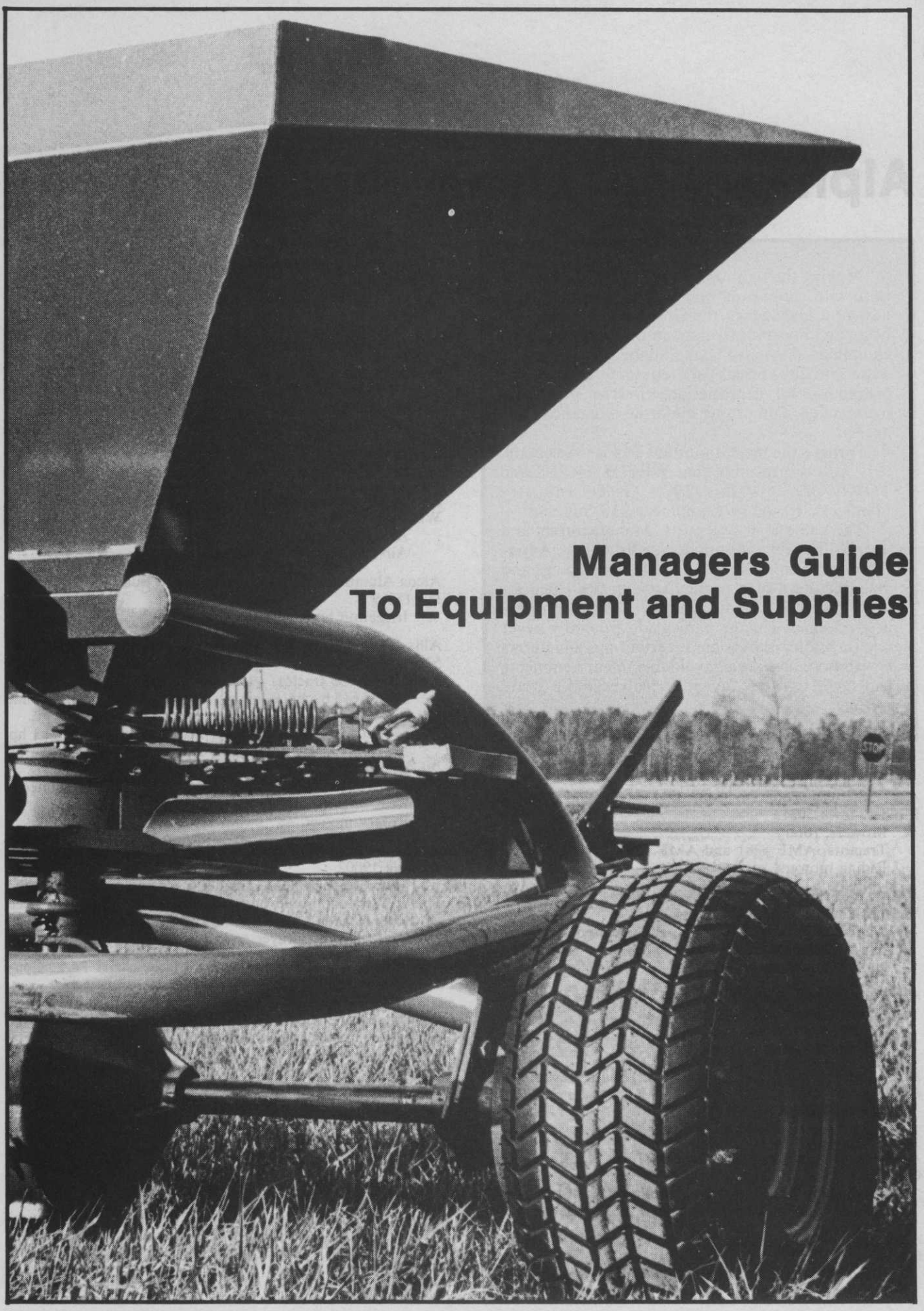
The operations of American Garden Products, Inc. include Gurney Seed and Nursery, Cole Nursery, Horton Nurseries, Western Seed, Cal-Turf and Perry's Plants, Inc.

New Agrico Division Names Sinclair President

Kenneth R. Sinclair has been elected president of Agrico International, a new division of Agrico Chemical Company, a subsidiary of the Williams Companies.

Agrico International is responsible for Agrico's overseas investments, marketing and a number of new overseas production facilities now in various stages of development.

Agrico International has overseas offices in Panama City, Paris, Milan, San Paulo and Tokyo.



Managers Guide To Equipment and Supplies

Alphabetical Listing of Suppliers

Making the right decision in selection of equipment and supplies is one of the most important jobs of a manager in the Green Industry. Besides being an important item on an investment budget, equipment must also be maintained. This calls for wide initial selection, correct accounting procedures for depreciation, effective preventive maintenance and proper major maintenance when needed.

Perhaps the most important step is in selection. It is with this in mind that WEEDS TREES and TURF presents this 1975 Green Industry Manager's Guide to Equipment and Supplies.

The guide is in two parts. Manufacturers and their equipment and supplies are listed first. **Advertisers are in bold face type.** Product groupings and manufacturers of a particular item are listed second. Because manufacturers add and delete product lines, change names and generally never remain static, omissions of certain manufacturers or product lines are unavoidable. Your comments and suggestions are invited to help improve future editions.

A

AMF Western Tool Division, 3811 McDonald Ave., Des Moines, Iowa 50313
Mowers, rotary
Tractors, AMF 1281 and AMF 1293
Riding mowers, rotary

A.O.A. Research & Development, Inc. (P.O. Box 6081C) 608 Virginia Dr., Orlando, Fla. 32804
Underwater weed cutter, manually operated, spring steel, serrated, doubleaction blades cut weeds with forward and backward stroke

Ace Pump Corp., 1650 Channel Ave., Memphis, Tenn. 38113
Pumps, centrifugal
Pumps, nylon roller
Pumps, diaphragm

Acme Products, 1201 Kalamazoo Street, South Haven, Mich. 49090
Masks, Dust, Gas
Respirators

ADS—Advanced Drainage Systems, 1880 MacKenzie Dr., Columbus, Ohio 43220
Corrugated Plastic Drainage Tubing, sizes of tubing and fittings from 4 inches to 18 inches in diameter

Adventure Line Mfg. Co., 3333 Main St., Parsons, Kansas 67357
Astro Hook, crane/ladder, truck mtd., hydraulic
Highworker, platform lift, truck mtd., hydraulic
Tailgate, 1,000 lb. cap. pickup mtd. tailgate, all of our equipment is designed for use on pickup trucks

Aeroquip Corporation, 300 S. East Ave., Jackson, Michigan 49203
Hose and fittings, hydraulic, fuel, air, oil, water; pressure from low to super high

Agresults, Inc., 5501 S.W. 74 St., Miami, Florida 33143
Hydrofyer Umbilla-Kal Injection System, Airifyer Adaptor for pressurized injection of pesticides, fertilizers or other chemicals into greens or tees

AgTronics Mfg. Co., 1560 State St., Barstow, Calif. 92311
Soil moisture meter

Air-Lec Industries, Inc., 3306 Commercial Ave., Madison, Wisconsin 53714
Air-Lec, aquatic weed cutter
Air-Lec, aquatic weed rake

Alcoa Aluminum Co. of America, Alcoa Building, Pittsburgh, Pa. 15219
Irrigation pipe

Allis-Chalmers, 1205 S. 70 Street, Milwaukee, Wisconsin 53211
Model 620 tractor, 19½ hp with tires rear 34.0"
Model 615 backhoe-loader, Allis-Chalmers 56 hp gasoline engine
Model 816 backhoe-loader, Perkins diesel engine 83 hp
Model 918 backhoe-loader, Allis-Chalmers diesel 84 hp engine
Mower (sickle bar), length 56" tractor (620) mounted
Rear mtd. Roto-Tiller, 48" size for 620 tractor
Rotary mower, 48" swath for 620 tractor

Amchem Products, Inc. Brookside Avenue, Ambler, Pennsylvania 19002
Meter Miser, liquid spreader gives precision application of Weedone liquid herbicide products without the need for calibration
Directa-Spra, sprayer end unit

American Arborist Supplies, Concord Industrial Park, Concordville, Pa. 19331
Arborist supplies
Chippers, Chain Saws, Hand saws, Climbers Rope, Pruning Equipment, Hardware (screw rod, cable, thimbles)

American Excelsior Corp., 850 Ave. H, East Arlington, Tex. 76010
Erosion Control Products
Soil Retention Products

American Hose & Reel Co., P.O. Box 639, Marland, Okla. 74644
Thermoplastic spray hose with working pressure of 250, 400 and 800 PSI; ¼, ⅜, ½, ¾-inch sizes
Fertilizer applicator tubing; ¼, ⅜, ½, ¾-inch sizes
Hose reels; small, 300 ft., ½-inch hose, 1000 P.W.P.; large, 300 ft., ¾-inch; adjustable drag

American Lincoln Corp., 518 S. St. Clair, Toledo, Ohio
Welders

Dacthal® drives 20 annual weeds off the course with one easy swing.

One application early in the spring. That's all it takes. Dacthal preemergence herbicide prevents 20 annual weeds from sprouting all season long. Problem weeds like carpetweed, chickweed, purslane and others. So you can devote time and manpower to more important work.

Dacthal doesn't stop there. It also drives out troublesome crabgrass and *Poa annua*. Hit 'em in the spring. And follow through with Dacthal in late summer for control of *Poa annua* and other late-germinating weeds.

Over the years, Dacthal has proven to be the closest thing to worry-free weed control. It won't harm new grass when used as directed. Won't leach out with frequent waterings. And there's no problem of residue buildup in the soil. Dacthal degrades, naturally, in one season. Just read and follow label directions.

You can even use Dacthal to keep the weeds out of flowers and shrubs. It's cleared for use on over 120 ornamentals. That's one more beauty of it.

This year, drive out weeds with Dacthal... the all-around favorite preemergence herbicide. Available in wettable powder or granules. Ask your supplier for more information or write: Agricultural Chemicals Division, Diamond Shamrock Chemical Company, 1100 Superior Avenue, Cleveland OH 44114.

TOTAL TURF CARE

Diamond Shamrock Chemical Company

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American Optical Corp., 14 Mechanic St., Southbridge, Mass.
Respirators, protects against harmful, highly toxic sprays, dusts and vapors in inticides, fertilizers, etc.
Eye protection goggles, protects against impact or dust & chemicals resulting from spraying, dusting, cutting, etc. Available with clear or sunglass lenses, plain or coated for anti-fogging.
Hard caps and hats, head protection against falling limbs or branches — Meets Amer. Nat'l Std. Z89.1-1970
Hearing protectors, protects hearing from damaging or irritating noises of tractors, sprayers, power saws, etc.

Ametek, Plymouth Products Division, 502 Indiana Ave., Sheboygan, Wisc. 53801
Superflexon plastic boxes, plastic irrigation valve boxes with turf green covers
Meter pits, plastic

Amoco Chemicals Corp., Industrial Products Div.,1530 Commerce Dr., Stow, Ohio 44224
Polyethylene pipe and fittings for irrigation
PVC pipe and fittings for irrigation
Corrigated plastic drainage tubing
Styrene rubber plastic drain pipe and fittings

Andrasko Engineering Co., P.O. Box 4633, Santa Barbara, Calif. 93103
The Meter Matic, fertilizer injector for irrigation systems

Aqua-Dial, P.O. Box 1325 Newport Beach, Calif. 92624
Turf irrigation Equipment
Automatic valves, hydraulic and electric, remote control
Automatic controllers
Sprinklers, gear driven, pop up, vandal resistant, lawn and garden

Aquamarine Corp., Box 616, 1116 Adams, Waukesha, Wisc. 53186
The Aqua-Trio, 3-piece aquatic weed harvesting system (harvester, transport and shore conveyor)
The Sawfish, an aquatic weed cutter and front end loader (for weed, trash and/or oil spill cleanup on water)
Design and prototyping service for specialized equipment for unusual or extraordinary weed problems

Aqua-Mech Co., 2609 Cedar Springs Rd., Dallas, Tex. 75201
Aqua Mech, conversion kit from manual valve and key to automatic timed heads

Arctic Mizer Mfrs., Inc., 2116 E. Norse Ave., Cudahy, Wis. 53110
Arctic Mizer, spreader, self-powered; vacuum-thatcher, self-powered

Ariens Company, 655 W. Ryan Street, Brillion, Wis. 54110
Ariens Emperor, riding mower — 30" and 38" rotary; 8 hp
Ariens Fairway, riding mower — 26" rotary; 5 and 7 hp
Ariens S-8 Tractor, lawn tractor — 36" rotary; 8 hp
Ariens Lawn Vac, lawn vacuum
Ariens Trac-Team, 26" rotary mower, lawn vacuum, rotary broom on one 8 hp tractor

Armor Metal Products, P.O. Box 822, Helena, Montana 59601
Anderson Rock Picker, heavy-duty rock removal machine for use in seedbed preparation

Asplundh Chipper Co., Div. Asplundh Tree Expert Co., Blair Mill Road, Willow Grove, Penna. 19090
Chipper, high speed, tapered blade
Forestry truck, Models L-40, 42, 45, 50; dump body, 12-inch chipper, aerial bucket
Brush hooks

Arps Corp., 1711 Wisconsin Ave., New Holstein, Wis. 53061
Arps 728, backhoe, tractor-mounted
Arps 730, backhoe, tractor-mounted
Arps blades and rakes, landscaping rakes and utility blades
Johnson "Work-Horse", front-end loader, garden tractor-mounted
Johnson "Terra-Comb", combination thatcher and power-rake
Arps mini-blades and rakes, blades and rakes for garden tractors

Aurora Pump, 800 Airport Rd., Aurora, Ill. 60542
Aurora pumps, irrigation pumps centrifugal and turbine pumps

Austin Products, Inc., 1000 Singleton, Dallas, Texas 75221
Servis Saturn, 5 rotary mower; 6 rotary mower; 7 rotary mower
Servis Cyclone, 60 rotary cutter; 72 rotary cutter
Servis Flex, 15 rotary cutter
Servis Gold Star, post hole digger
Servis landscape rakes, box scrapers

Auto Hoe, Inc., S. 3rd St., De Pere, Wis. 54115
Auto Hoe, power hoeing machine 3.4 & 5 (HP)

Avco New Idea, Farm Equip. Div., 420 S. First St., Coldwater, Ohio 45828
Tractors:
EGT-200, battery powered, 18 hp class
EGT-150, battery powered, 16 hp class
EGT-120, battery powered, 14 hp class
EGT-100, battery powered, 10 hp class
EGT-80, battery powered, 8 hp class
35 attachments and accesories

Avco Ezee Flow, Coldwater, Ohio 45828
Spreaders, gravity drop, broadcast, fertilizer
Seeders, broadcast
Mowers, rotary
Applicators, granular, insecticide-herbicide

B

B.A.G. Corporation, 9443 Sherwood Glen, P.O. Box 28403, Dallas, Texas 75228
Taicon Container, plastic, collapsible, reusable shipping container for handling bulk shipments
Super sack container, one-ton disposable container

BMB Company, Inc., North Vermont at 9th, Holton, Kansas 66436
Utility, 5' tractor operated rotary mower
Special, 6' tractor operated rotary mower
XL and Brute, 5' and 6' tractor operated rotary mower
Fury, 7' tractor operated rotary mower
Twin Brute 120 and 144, 10, and 12, tractor operated rotary mower
Twin Fury 144 and 160, 12 and 13'4" tractor operated rotary mower
Mighty Mower, 15, 18' and 20' flexible tractor operated rotary mower
Suburban 48, 48" trailing rotary mower w/ 8 hp gas engine
BMB Flail Mowers, 72", 90", 144" and 180" tractor operated

Bachtold Bros. Inc., 619 N. Center St. Forrest, Illinois 61741
Rotary mower 8 h.p.
Tuff-Bee "30", Rotary mower rider 8 h.p.

Badger Dynamics, Inc., P.O. Box 305, 1221 S. Park St., Port Washington, Wisconsin 53074
"Bucky" Forklift, outdoor forklift 2500 lb. capacity
Models 6035/6045, Towable rough terrain forklift 6000 lb. capacity

Baker Equipment Mfg. Co., 1710 High Point Ave., Richmond, Va. 23230
Aerial towers, mobile equipment
Derricks, mobile equipment

Bartlett Mfg. Co., 3009 East Grand Blvd., Detroit, Mich. 48202

Saws, tree, combination pruner and saw
Saw, pruning, hand
Saw sheaths
Tree bracing materials
Belts, safety
Tree paints
Trimmer, tree (hydraulic & pneumatic)
Shears, lopping (two hand)
Pruners, (long pole) fiberglass
Saws, (long pole) fiberglass
Rope, climbing

Bar-Way Mfg. Co., P.O. Box 640, Stamford, Conn., 06904
Spray guns, long-range, worm-gear control on end of barrel
Swivel adapters
Invigorator guns — liquid fertilizers
Suction refillers strainers
Couplings

Beatty Trailers, Box 1027, Burlington, N.C., 27215
Beatty Trailers, self-contained, hydraulic dump; capacities 2, 3, 5, 9, 13 yard; transport trailers, 6 to 30,000 lb. capacity; tag-a-long and goose neck

Beck Manufacturing Company, P.O. Box 752, Auburn, Alabama 36830
Lawn-O-Matic, turf grass planter, plugger — sprigger
Sod-O-Matic sod cutter, sod cutter cuts 3 16" strips at one time
Sod-O-Matic sod harvester, Beck's big roll — sod harvesting and laying system

Beeco Products Co., Industrial Park, Fort Washington, Pa. 19034
Beecomist, spray head for LV and ULV agricultural and insecticide spraying for aerial or ground equipment, rotary type, 12V DC or 24V DC, three models

Bell Helicopter Co., P.O. Box 482, Fort Worth, Texas
Helicopters

Bemis Company, Inc., 800 Northstar Center, Box 215, Minneapolis, Minn. 55402
Bags and liners, plastic
Bags, tree balling, litter, grass catcher
Twine, tying

Wm. Bergman Co.,1335 M-15, Reese, Mich. 48757
Service, stone picking, seeding, land preparation

Berkeley Pump Co., 829 Bancroft Way, Berkeley, Calif. 94710
Pumps, electric and gasoline; irrigation, one to forty hp, higher hp available, centrifugal and turbine

Bermuda King, Inc., Rte. 1, Okarche, Okla. 73762
Sprig harvesters, 20", 28", 42", 30 to 60 hp, 500 to 1,000 watt an hour rating
Sprig planters, 1, 2, 3 and 4-row, large capacity
Fairway spriggers, 2 to 10' width, large capacity

Bete Fog Nozzle, Inc., Greenfield, Mass.
Stubbies, nozzles, mini-sized, three cone angles, flow rates from 3 to 300 gpm
Spray nozzles
Spray applicators
Fog spray nozzles

Big Brute Turf Cut, Div. of Finney Frocks, 18035 Georgia Ave., Olney, Md. 20832
Big Brute turf cutter, sodcutter

Billy Goat, P.O. Box 229, Grandview, Mo. 64030
Billy Goat, suction sweeper
Winro, leaf blowers Shred-N-Bag, shredder
Chippit, chippers, vacuums

Black & Decker 701 E. Joppa Road, Towson, Md. 21204
Lawn mowers, electric rotary
Grass shears, battery powered (re-chargeable)
Hedge trimmers, 13" to 22" Black Knight—both electric and battery
Lawn edgers, electric
Patio vacs, 5 and 10 gallon dry and 8 gallon wet/dry
Garden hose connectors, complete line of hose fittings

John Blue Co., P.O. Box 1607, Huntsville, Ala. 35807
Spreaders, fertilizers (liquid, dry, bulk)
Tanks, spray and fertilizer
Sprayers, mounted and pull type, rights-of-way
G-1000 tractor (16 h.p.) rear engine, agricultural type. Attachments include rotary mower, cultivator, harrows, etc.
L-900 Metering Pump, injection of liquid fertilizer for irrigation systems
Cotton Module Maker, 24' and 32'
Cotton Module Trailers, straight tongue or gooseneck, 24' and 32'

Blue Bird International, Inc., 2778 So. Tejon, Englewood, Colo. 80110
Bluebird, lawn combers, A/K/A thatchers, dethatchers, lawn rakes, rnovators and vertical mowers, 4 hp, 5 hp, 7 hp
Bluebird "1500", engine hoists, knockdown type
Bluebird "3000", engine hoists, towable type
Bluebird "Yardbird", utility crane
Bluebird, engine stands
Bluebird "F .20B", lawn comber, compact type, 5 hp

Bombardier limited Valcourt, Quebec, Canada
Muskeg brush cutter, tracked vehicle (90 hp) equipped with front-mounted hydraulic rotary brush cutter
Muskeg carrier, tracked vehicle (90 hp) with spraying equipment

Boss Irrigation, P.O. Box 191, San Angelo, Texas 76901
Irrigation sprinkler

Bowie Industries Inc., P.O. Box 931, Bowie, Texas 76230
Hydro mulcher—used in sprigging, seeding, mulching, fertilizing, insect control and weed control 350, 500, 800, 1,000, 1,500, 2,500 and 3,000 gallon tanks. Trailer or skid-mounted
Agri-sprayer, multi-purpose low volumn 400 gallon sprayer, fiberglass tank trailer-mounted, remote hydraulic operation. P.T.O.

Bridgeport Implement Works, Inc., P.O. Box 491 WT, 60 Rachel Drive, Stratford, Conn. 06497
Pixtone, trailer-type—self-powered, picks stone ¾ to 9-inch diameter

Briggs & Stratton Corp., P.O. Box 702, Milwaukee, Wis. 53502
Engines, 4-cycle, single cylinder, gasoline

Brighton By-Products Co., Inc., P.O. Box 23, New Brighton, Pa. 15066
Weed Chek, fiberglass landscape mat
Triton, planters & benches, fiberglass
Bridgestone, high pressure spray hose

Brillion Iron Works, 200 Park Ave., Brillion Wis. 54110
Mow-Safe, safety flail mowers (72" and 88")
Swing-Cut, rotary mower (60" and 72")
Turf-Maker, seeder for sod-growers
Sure-stand, landscape and agricultural seeders
Terra-Scraper, landscape rakes
Versa-Mower, 180" rotary cutters

Brinly Hardy Co., Inc., P.O. Box 1116, Louisville, Ky. 40201
Brinly attachments, gardening and landscape equipment for tractors equipped with sleeve type hitch
Brinly implements, gardening and landscape equipment for tractors equipped with Cat. "O" 3-pt. hitch
Brinly lawn maintenance equipment, pull behind equipment such as roller, aerators, broadcast spreaders

Brouwer Turf Equipment Limited R.R. No. 1, Keswick, Ontario, Canada
Sod harvester, attached to a 35-40 hp farm tractor
Frate Lift, 3-wheeled, self loading forklift

The Broyhill Company, No. Mkt. Sq., Dakota City, Nebr. 68731
Sprayer, skid-mounted, mechanical agitation
Sprayers, trailer mounted, mechanical agitation
Sprayer parts: pumps, hose, tanks, trailers, nozzles, handguns, spring boom

Buckner/Johns Manville Irrigation, Greenwood Plaza, Denver, Col. 80217
Full line irrigation, automatic electric controllers, impulse sprinklers, valve-in-head sprinklers, quick couplers, pop-up sprinklers, hydraulic controllers, valves

Buffalo Turbine Ag. Equipment Co., Industrial Place, Gowanda, N.Y. 14070
Sprayer, mist blower, ULV hand carried, sonic ULV, mist blower, turntable
Sprayer-duster, mist duster, combination
Duster, dust only
Sprayer-duster, back pack, power take-off

Bunton Co., 4304 Poplar Level Rd., Louisville, Ky. 40213
Mowers, rotary
Lawn and turf equipment

C

E. L. Caldwell & Sons, Inc., 3204 Agnes St., P.O. Box 9316, Corpus Christi, Tex. 78408
Interstate, rotary mower, 15 ft.
Challenger, rotary mower
Manta Ray Interstate, rotary mower, 10 ft.
Brush Beaver, rotary mower, 5 ft. or 6 ft.
Manta Ray, Jr., rotary mower, 16 ft.
Contur Flail, heavy-duty, flexible flail, 15 ft., 3 sections
Shark-go, flail-type shredder, 90 inches
Barracuda, lift-type flail mower, 72-inch

CareTree Systems, 7030 Huntley Rd., Worthington, Ohio 43085
CareTree transplanter, tree transplanter for installation on agricultural or industrial tractors or 4-wheel loaders

Cast Iron Pipe Res. Assoc., 1211 W. 22nd, Oakbrook Exec. Plaza, Suite 23, Oakbrook, Ill. 60521
Cast iron pipe for irrigation

Campbell-Hausfeld Co., Sales Ave., Harrison, Ohio 45030
Lombard CS1500 (electric), saw, chain, electric, 12-inch bar, 12 amps
Lombard Pony (CS2500), saw, chain, gasoline, 12-inch bar, 6½ lbs.
Lombard Comango (CS3500), saw, chain, gasoline, 16-inch bar, manual oiler
Lombard Super Comango (CS3501), saw, chain, gasoline, ½ "anti-vibe", auto oiler
Lombard Super Lightning (CS3502), saw, chain, gasoline, ½"anti-vibe", auto oiler
Lombard Super Lightning Anti-Vibe (CS3503), saw, chain, gasoline, full "anti-vibe", auto oiler, decompression valve

Cascade Corporation, P.O. Box 25240, Portland, Oregon 97225
Cascade Knuckleboom, truck mounted hydraulic crane that stows in less than 2' of bed space. Capacities to 9,650 pounds at 5'

J I Case, Outdoor Power Equipment Division, Winneconne, Wisconsin 54986
Snow Blowers, J81 (32") J80 (38") J84 (48")
Compact Tractors, 108 (8 hp) 118 (8 hp) 210 (10 hp) 220 (10 hp) 222 (12 hp) 224 (14 hp) 444 (14 hp) 446 (16.5 hp)
Loader Tractors, 644 (14 hp) 646 (16.5 hp)
Rotary Mowers, J41 (34") J40 (38") J44 (44") J46 (48")
Dump Carts
Utility Blades, G51 (38") H50 (44") H54 (54")
Rotary Tillers, H70 (41") J72 (32")

Century Engineering Corporation, 221—4th Ave. S. E., Cedar Rapids, Iowa 52401
Sprayers, trailer, tractor, jet or mechanical agitation
Washers, high pressure
Heaters, portable oil and gas

Certain-Teed/Daymond Co., 230 Collingwood, Suite 150, Ann Arbor, Mich. 48103
Certa-Flex, corrugated plastic tubings of various diameters for land drainage and trickle — irrigation

Certain-teed Products Corp., P.O. Box 860, Valley Forge, Pa. 19482
Fluid-Tite™ double gasket asbestos-cement and PVC pipe, irrigation; fittings, irrigation pipe.

Champion Brass Mfg., 1460 N. Naud St., Los Angeles, Calif. 90012
Champion 466, 466P, anti syphon valves
Champion 17, 18, 19, lawn sprinklers, flush, popup, shrub
Champion E.A., C.E.A., electric adapters

The Champion Company, 400 Harrison St., Springfield, Ohio 45501
Doo-All Roll-Dump Trailer, 1 and 2 cu. yd. hopper capacities
Doo-All End-Dump Trailer, 3 cu. yd. hopper, hydraulic dump

R. E. Chapin Mfg. Works, Inc., 29 Liberty St., Batavia, New York 14020
Dusters, flamethrowers, sprayers

Charles Machine Works, Inc., Ditch Witch Division, P.O. Box 66, Perry, Okla. 73077
Ditch Witch trenchers, 7 hp to 195 hp, vibratory plows, backhoes, trencher mounted trailers, horizontal boring units

Clarke Div., Clarke-Gravely Corp., 1849/75 Estes Street, Muskegon, Michigan 49441
Litter Vac, indoor/outdoor vacuum for picking up large debris from grounds (5 hp Tecumseh engine)
Space Sweeper, Models T-71-2-3 power sweeper (gas, elec., battery)
Airlift, sweeper (the Clarke revolutionary regenerative air principle)

Clark Equipment Trailer Division, P.O. Box 410, Michigan City, Indiana 46360
Clark Equipment mini trailers, a 22 dual axle and 30 ft. tri-axle flatbed trailers designed for use with 5th wheel connecting pick up trucks.

Clinton Engines Corporation, Clark & Maple Streets, Maquoketa, Iowa 52060
Engines, gasoline

Club Car, Inc., A Johns-Manville Company, P.O. Box 1625, Augusta, Georgia 30903
Caroche, four-wheel electric golf car (2 passengers)
Caroche Utility Truck, four-wheel electric utility truck (2 passenger and 500 lb. load
Caroche Personnel Carrier, Four-wheel electric (4 passengers)
Caroche Islander, combination commuter & golf car

Conaway, Inc., P.O. Box 303, Lawrence, Pa. 15055
Chain saws, portable generators, gasoline hedge trimmer, portable brush cutter, lawn and garden tractors, 7 to 16 hp., riding mowers, lawn mowers 2 and 4 cycle, lawn and garden tractors 8-16 hp., composters, garden tillers, riding mowers 5-8 hp., vacuum blowers, grounds keeper, high wheel rotaries

Container Development Corp., 424 Montgomery St., Watertown, Wisconsin 53094
Golf course equipment
Lewis line, ball washers, flag poles, tee markers, cups, cup cutters, flags, rakes, etc.

Contree Sales, Inc., P.O. Box 129, Columbus, Wis. 53925
Rice Paddy Daddy, sprayer
Boom Dye-Marker, marks areas treated

Wat Sol Oil, lubrication, preservative, storage oil
Auger, Model S.S., 4-inch, 12 volt for materials handling

Conwed Corporation, 332 Minnesota St., St. Paul, Minn. 55101
Conwed Hydro Mulch®, a wood fiber mulch used in hydro seeding
Conwed Economy Erosion Control Netting, tough plastic net used over loose mulches in high erosion areas

Cooper Mfg. Co., 422 S. First Ave., Mardhaltown, Iowa 50158
Edgers, gasoline powered
Mowers, reel, walking
Champion 21, greensmower

Corona Clipper Co., 14200 E. 6th, Corona, Calif. 91720
Tree and ornamental care and pruning equipment
Grass shears, anvil pruners, hand pruners, lopping shears, pole pruners, pole saws, hand saws & pruning paint

Correct Mfg., Hughes Keenan Div., P.O. Box 689, Delaware, Ohio 43015
Sky-Worker, aerial bucket—reaches up to 71 ft., horizontal to 45 ft.

Coursigns, Inc., 6500 N. Clark St., Chicago, Ill. 60626
High impact plastic stakes and golf course signs, cart directional. Large signs such as: "course closed," "tee closed" etc.
3/16" Poly rope 1M & 2M ft. spools
Sand trap rakes, combines steel head & plastic teeth
Plastic chain & ground posts
Tee caddy, container for tees, matches, scorecards

Howard S. Crane, Inc., P.O. Box 88, Oneida, New York 13421
Quick Test Moisture Tester, instrument to test grain
Aqua Probe Sub Soil Moisture Meter, instrument to test soil

Creative Sales, Inc., 200 South Main St., Fremont, Nebraska 68025
Tree systems—medicaps, systemic tree trunk injection

Cresline Plastic Pipe Co., Inc., 955 Diamond Ave., Evansville, Ind. 47717
Cresline, PVC pipe and fittings
Cresline Polyethylene pipe and tubing
Cresline polybutylene pipe and tubing

Curtis Dyna Products Corporation, P.O. Box 297, Westfield, Indiana 46074
Dyna Fogger, thermal fogger
BP-145, backpack sprayer, duster

Cushman, OMC-Lincoln, 1401 Cushman Drive, Lincoln, Nebraska 68512
Cushman turf care system, 12 hp and 18 hp gasoline vehicles for turf care

Cyclone Seeder Co., Inc., Urbana, Ind. 46990
Seeders

D

Dadco, P.O. Box 2086, Fresno, Calif. 93719
Dadco, battery clamps, guaranteed never to corrode. Supplies more power from battery to cable. Easy installation or removal. Available pre-molded on 2 & 4 gauge cable to 72"

Ross Daniels, Inc., P.O. Box 430, 1720 Fuller Road, West Des Moines, Iowa 50265
Ross Root Feeder, to feed as you water to the roots of trees and shrubs

Davey Tree Expert Co., Kent, Ohio 44240
Tree nursery, 150 varieties of shade and ornamentals
Tree service, nationwide and Canadian representation

Davis Mfg., Div. J. I. Case Co., 1500 S. McLean Blvd., Wichita, Kansas 67213
Fleetline®, rubber tire trenchers, 7-65 hp
Task Force®, track mounted trenchers
Road Run'r®, trencher 57 hp with backhoe attachment
Boring and reaming attachments for trenchers. Also direct borial equipment
Mini-Sneaker®, 25 hp vibratory plow
Scatback™, 30 hp 4-wheel drive articulated loader

Deere and Co., John Deere Equipment, John Deere Administrative Center, John Deere Rd., Moline, Ill. 61265
JD 350B & JD 450C, crawler; 42 and 65 hp; loader bulldozer blades and log fork available
JD 760A & JD 860A, elevating scraper; 9.5 and 15 cu. yd.
JD 380 & JD 480B, forklifts; 4000-5000 lb. lift and 5000-6000 lb. lift
Mowers, rotary, flail; push, riding, self-propelled; side mounted cutter bar available
JD 24, JD 70 & JD 170, skid steer loader; 25 and 37 hp
JD 820, grounds maintenance tractor, 31 hp; belly mounted mower, cuts 6 ft. swath
Tools, 237 different tools for shop, work and home
Roto Tillers
Lawn Sweepers
Blades
Snow Throwers
Chain Saws
JD301A, tractor, utility, 43 hp, utility loader, 43 hp
JD 300B, loader, 43 hp, loader/backhoe, 43 hp
JD 302, tractor, 50 hp, utility loader, 50 hp
JD 302A, loader, 50 hp, loader/backhoe, 50 hp
JD 401 B, tractor, utility loader
JD 401 C, loader, loader/backhoe

Delavan Mfg. Co., 811—Fourth St., West Des Moines, Iowa 50265
Nozzles, all conceivable types, sizes and spray angles
Accessories, boom control valves, pressure relief valves, strainers, agitators and spray guns
Pumps, roller, turbine, piston

DESA Industries, Inc., 25000 S. Western Ave., Park Forest, Ill. 60466
Remington, gasoline chain saws, electric chain saws, pneumatic chain saws

Dico Co., Inc., P.O. Box 1344, Des Moines, Iowa 50305
Dico, Knuckle boom for sod loading & transporting
For wood, brush, trash
Log loaders. Trolly boom hoists
Traveling boom & cranes
Wheels and brakes

Digz-All Trencher Co., Div. Wing King Co., Merril, Iowa 51038
Digz-All, trenchers

DriAll, Inc., P.O. Box 309, Attica, Ind. 47918
Air Curtain Destructor, pit incinerator for disposal of trees and wood products—air pollution approved
Scarifier Levler, leveling device with scarifying teeth for landscapers, sod growers
Yard Levler, leveling or grading drag

Dunlop Tire & Rubber Corp., Box 1109, Buffalo, N.Y. 14240
Dunlop tires, for cars and trucks, tractors and implements

E

ESB Brands, Inc., Willard, Exide, Box 6949, Cleveland, Ohio 44101
Willard and Exide batteries, 6-volt electric golf car and golf utility vehicle batteries. Lead acid storage batteries for lawn and garden tractors
ESB Battery Chargers

E-Z Go Car, Division of Textron, Inc., P.O. Box 388, Augusta, Ga. 30904
E-Z Go Golf Car, X-440 electric 3-wheel, GX-440 gas 3-wheel, X-444 electric 4-wheel, GX-444 gas 4-wheel
GT-7 gas turf vehicle

E-Z Rake, Inc., 1001 S. Ransdell Road, Lebanon, Indiana 46052
E-Z Rake, Spring Tine Thatchers and power rakes, lawn vacuums that attach to garden tractors and riding mowers

Eagle Mfg. Co., 24th & Charles St., Wellsborg, W. Va. 26070
Eagle manufactures a complete line of oilers, safety cans, oily waste cans, lab cans, oil and gasoline containers and safety storage cabinets

Echo Chain Saw Div., Kioritz Corp. of America, 350 Wainwright Ave., Northbrook, Ill. 60062
Echo Chain Saws, full range of chain saws from CS302, 30cc unit to CS100, 100cc unit
Echo Power Blowers, compact, lightweight knapsack type blower, 40 cc engine
Echo Duster/Mist Blower, compact, light weight knapsack type blower, 40cc engine
Echo Swing Scythe, lightweight, shoulder type, 20cc engine

Economy Tractor, 1005 Anoka Ave., Waukesha, Wisc. 53186
Mowers, rotary, tractors (13-20 hp)

Engineering Products Co., P.O. Box 284, Waukesha, Wis. 53186
Economy, man-size all-gear tractor, 14 hp
Mower, rotary, mounted under tractor, 60 inches

Edwards Manufacturing Company, P. O. Box 1275, Ponca City, Oklahoma 74601
Edwards Sprayers, power sprayers, 50, 100, 200, 300, 400, 500, 1,000 gallons; 3 to 50 hp engines

Rue R. Elston Co., Inc., 815 E. 79th St., Minneapolis, Minn.
Gopher Getter Jr., injection equipment

Energy Mfg. Co., Inc., 100 N. Main, Monticello, Iowa 52310
Hoists, pick-up
Hoists, truck
Hoists, bolster wagon
Hydraulic cylinders, valves, pumps, motors, reservoirs, gauges, couplers, filters, cylinder breathers

Erickson Corp., 211 St. Anthony Blvd., N.E., Minneapolis, Minn. 55418
Erickson, hydrostatic drive compact front end loaders

Erie Go Mfg. Inc., 1432 Tiffin Avenue, Sandusky, Ohio 44870
500 Ken Roll, ½ ton, hydrostatic, recoil start, manual steering
3000 Ken Turf Roll, 48" wide, hydraulic drive, manual start (electric start optional)

Eversman Mfg. Co., Curtis at Fifth St., Denver, Colo. 80204
Eversman, land leveler

Red Ewald, Inc., P.O. Box 1167, Karnes City, Texas 78118
50-gallon spray rig, the basic unit is 50-gallon fiberglass tank, skid, 5 hp engine, 6 roller pump, 25' hose and handgun, plumbing and regulator

Excel Industries, Inc., P.O. Box 385, Hesston, Kansas 67062
Hustler, mower, rotary Model 272, 18 hp, dual hydrostatic transmission, 72-inch cut, winter attachments available
Hillside Hustler, mower, rotary, 24 hp, dual hydrostatic, Model 360, self-leveling for maximum safety and performance on hillsides and level ground; 60-inch flail, too

F

FMC Corp., Agricultural Machinery Div., 5601 E. Highland, Jonesboro Ar. 72401
Bean Sprayers, hydraulic, all-purpose, pull-type
Bean sprayers, hydraulic high pressure, mist blowers, skid mount, trailer mount, complete line of booms, accessories, components. Rotary and Flail tractor mounted mowers, tilthers
Mistblowers, truck mounted, nozzle parts

FMC Corporation, Sweeper Division, 1201 E. Lexington St., Pomona, Calif. 91766
Wayne Stump cutter and Wayne Brush Chipper

FMC Corporation, Outdoor Power Equipment Div., 215 South Park Street, Port Washington, Wis. 53074
HT-20, tractor, garden, hydrostatic, twin cylinder, 19.5 hp 54-inch rotary mower, 48-inch two-stage snow thrower, 42" single stage snowthrower, 54" blade, 33" tiller expandable to cover wheel widths.
QT-16, tractor, garden, hydrostatic drive, twin cylinder 16 hp, 48-inch rotary mower, 42" single stage snowthrower, 54" blade, 33" tiller expandable to cover wheel widths.
QS-16, tractor, garden, hydrostatic drive, 48-inch rotary mower, 16 hp, 42" single stage snowthrower, 54" blade, 33" tiller expandable to cover wheel widths, 16 hp single cylinder engine
H-14, tractor, garden, hydrostatic drive, 14 hp 42-inch rotary mower, 38" single stage snowthrower, 42" blade, 33" tiller expandable to cover wheel widths
G-14, tractor, garden, 14 hp, 42-inch rotary mower, 38" single stage snowthrower, 42" blade, 33" tiller expandable to cover wheel widths
G-10, tractor, garden, 10 hp, 38-inch rotary mower, 38" single stage snowthrower, 42" blade, 33" or 22" tiller
G-8, tractor, lawn, 8 hp, 32-inch rotary mower, 32" single stage snowthrower, 42" blade 828, 829, mower, riding, 8 hp, electric and recoil start, 28-inch rotary
Mowers, mulching type, rotary, two 22-inch self-propelled, 22-inch and 18-inch, hand propelled, mulching type, rotary, 3 special application units, 22" push, 2 18" push
Mulcher Baggers, two models, 6 hp and 3.5 hp, both equipped with safety interlocks and leaf ramp option
Tillers, horizontal shaft, 5 hp; vertical shaft, 3.5 hp
Attachments to fit tractors

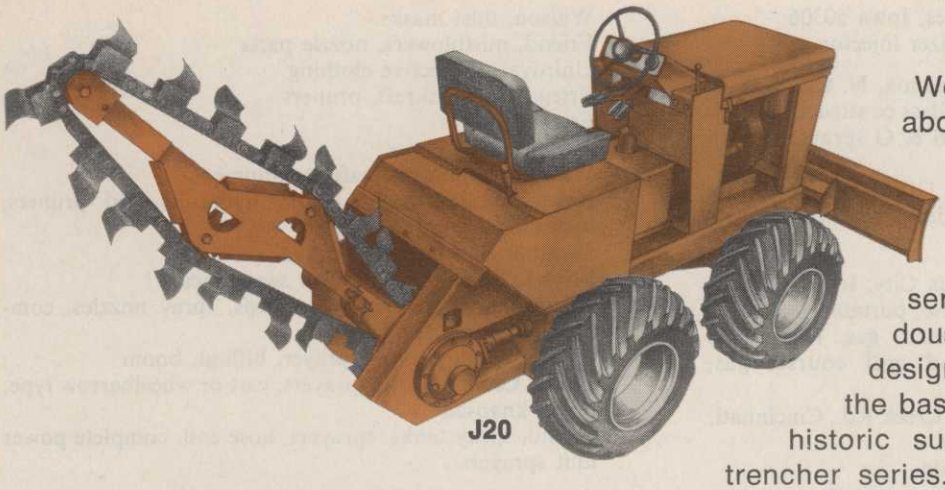
FMC Side-Winder, P.O. Box 818, Minden, Louisiana 71055
Side-winder rotary cutters, tractor drawn rotary cutters, lift and pull models, 4 ft. to 16 ft.
Side-winder flail mowers, tractor drawn flail mowers, 6 ft. and 7 ft. models

Fairmont Hydraulics, 332 S. Michigan (Suite 1818), Chicago, Ill. 60604
The Powerfuls, drills (hydraulic powered), pruners (hydraulic powered), saws (chain-hydraulic powered), saws (circular-hydraulic powered)

Fanno Saw Works, Box 628, Chico, Calif. 95926
Saws, pruning, manual

Fayette Division, Dayton-Walther Corporation, P.O. Box 8, Fayette, Ohio 43521
Haulette by Fayette, trailers, utility and light to medium heavy industrial

Ferrari Tractor, 6104 Avenida Encinas, Carlsbad Ca. 92008
Ferrari 4WD Tractor, 30 & 45 hp 4WD mowing tractors
Mascio Rototillers, Commercial 40", 50", 60" & 90" rototillers for all 3 point hitch, catagory I trailers
Ferrari Walkbehind rototillers, 7.5 hp & 14 hp diesel rototillers
Ferrari Lawn & Garden tractors and sprayers, 7.5 hp & 14 hp diesel power head tractors for mowing, snow blowing, "spraying", also has riding trailer
Ferrari Snow Plow, 7.5 hp & 14 hp diesel snow blower

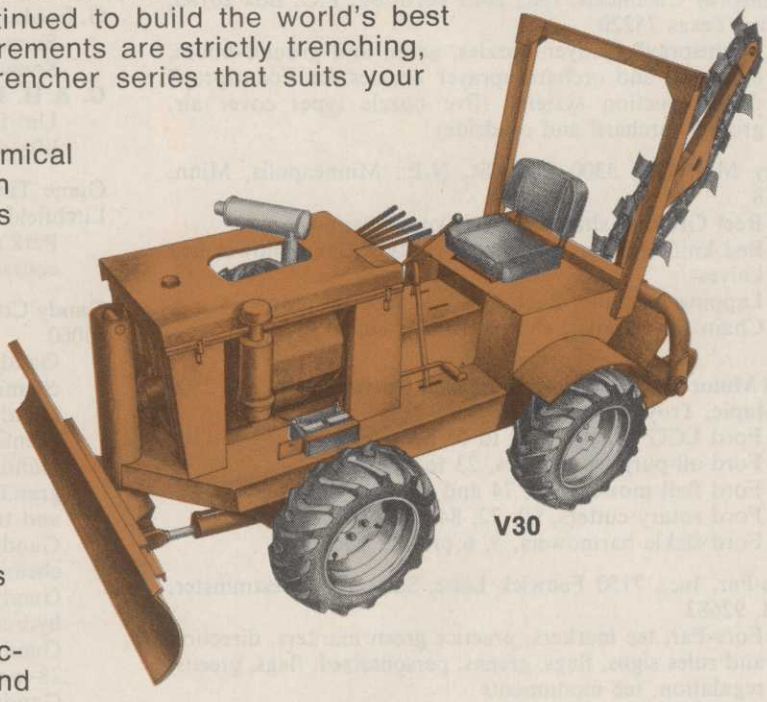


J20

We've been talking a lot lately about the Ditch Witch Modularmatic concept and what it means to the underground construction industry. The Modularmatic series does provide a tremendous range of job functions; all designed and developed around the basic soundness of design and historic success of the Ditch Witch trencher series. We're mighty proud of it and what it offers, but we realize there are times when the many capabilities of the Modularmatics are not needed. That's why we manufacture our standard line of trenchers.

DON'T FORGET OUR TRENCHERS!

Ditch Witch designed and built the world's first service-line trencher more than 20 years ago. We've continued to build the world's best trenchers ever since. If your job requirements are strictly trenching, there's a model in the Ditch Witch trencher series that suits your needs exactly.



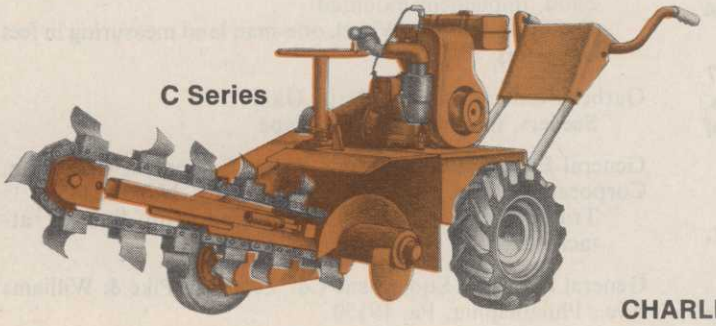
V30

For example, we offer two economical handlebar models, the C and M. Both are self-propelled with power plants ranging from 7- to 12½ horsepower.

If you need a four-wheel-drive machine with full hydraulic control, including power steering, we have the 18-horsepower J20 and 30-horsepower V30.

Should you need a larger trencher, one of our Modularmatic models, equipped as a trencher, gives you the best machine in its class — plus the option of adding other capabilities later.

Whatever your underground construction needs, look first to Ditch Witch and "Don't forget our trenchers!"



C Series

Ditch Witch . . . equipment from 7 - to 195-HP.

CHARLES MACHINE WORKS, INC.
P.O. Box 66
Perry, Oklahoma 73077 ®

DITCH WITCH

For More Details Circle (103) on Reply Card

Ferti-Feeder, 3973 Eastlay, Des Moines, Iowa 50306
Ferti-Feeder, tree deep root fertilizer injector

Fibre Glass Products, Box 147, Swannanoa, N. C. 28778
Tool boxes—pickup truck, Fibre Glass construction, paddle locks, built to accommodate B & G sprayer, fits all size trucks
Chemical tanks—pickup truck, 55, 110, 180 gallons, Fibre Glass construction, with agitator, drain, and hose connections

Fimco, Inc., 1st & Court Streets, Sioux City, Iowa 51101
Big Butch, pressure washer, electric, portable
Dobbins, sprayer, lawn and garden, gas, mechanical agitation; sprayer, orchard and golf course, gas, mechanical agitation

Finn Equipment Company, 2525 Duck Creek Rd., Cincinnati, Ohio 45227
Finn mulch spreader, straw spreader
Finn Hydroseeder, seed and fertilizer spreader
Finn Klodbuster, slope harrow

The Flintkote Co., Pipe Products Div., One Cascade Plaza, Suite 1402, Akron, Ohio 44308
Pipe, asbestos, cement
Pipe, PVC
Pipe, polyethylene

Flymo, P.O. Box 939, Elkhart, Ind. 46514
Flymo, air-cushion rotary mower

Foamspray Chemicals, Inc., 2623 Perth St., P.O. Box 20183, Dallas, Texas 75220
Foamspray® sprayer nozzles, aerial and ground boom, handgun, and orchard sprayer nozzles for Foamspray® drift reduction systems (five nozzle types cover air, ground, orchard and roadside)

Foley Mfg. Co., 3300 Fifth St. N.E., Minneapolis, Minn. 55418
Reel Grinder, sharpens, reel type, lawnmowers
Bed knife grinder, sharpener, reeltype, lawn mower bed knives
Lapping machine, Back laps reel type lawnmowers
Chain saw grinder, sharpen saw chains

Ford Motor Co., Tractor & Implement Operations (N.A.), 2500 E. Maple, Troy, Mich. 48084
Ford LCG Tractors, 37 to 63 hp
Ford all-purpose tractors, 23 to 131 hp
Ford flail mowers, 62, 74 and 88-inch widths
Ford rotary cutters, 60, 72, 84 and 100-inch widths
Ford sickle barmowers, 5, 6 or 7 ft. widths

Fore-Par, Inc., 7150 Fenwick Lane, Suite 106, Westminster, Calif. 92683
Fore-Par, tee markers, practice green markers, direction and rules signs, flags, greens, personalized, flags, greens, regulation, tee monuments

Fox Valley Marking Systems, 31W300 West Bartlett Rd., Bartlett, Ill. 60103
Easy Marker, aerosol paint cane type object to aide in layouts for landscapers, contractors, etc.

Friend Mfg. Corp., 4441 Prospect St., Gasport, N.Y. 14067
Tractor (hp); mower (reel, sickle, rotary, flail); saw (gas, hydraulic, electric, chain, circular); sprayer (type of agitation); irrigation (type of head, etc.)
Friend Airmaster, air blast applicator
Friend Orchardkraft, alternators, power brushcutter
Friend Commander, chemical applicators, granular, chemical
Champion and Chapin, chemical applicators, dusters
Friend Orchardkraft, generators, hose, hydraulic and air-powered tools
Friend Parkkraft, litter bags
Willson, dust masks
Friend, mistblowers, nozzle parts
Uniroyal, protective clothing
Friend Orchardkraft, pruners
Friend, pumps
Hannay, reels, hose
Willson, respirators, safety equipment
New Draulics, saws, chain, hydraulic and pruners, hydraulic
Seymour Smith, saws, manual
Friend Orchardkraft, power saws, shears
Friend, spray booms, spray guns, spray nozzles, complete, disk whirls
Friend, spray pumps, sprayer, bifluid, boom
Friend Orchardkraft, sprayers, cart or wheelbarrow type, hand, knapsack
Friend, spray tanks, sprayers, hose end, complete power unit sprayers

Fruend Can Co., 143 W. 84th St., Chicago, Ill.
Gasoline cans to meet OSHA specifications

Fuerst Brothers, Inc., P.O. Box 271, Rhinebeck, New York 12572
Fuerst F-l-e-x-i-b-l-e tine harrows, turf maintenance equipment for seedbed preparations, scarifying, overseeding preparation, golf course construction, general turf area and bridle path maintenance

G

G. E. M. Products Inc., Box 845, Carol Stream, Ill. 60187
Snow Co "Power Kart", 3 wheel truck 8 hp
Snow Co "Farm Skat", all terrain vehicle 8 hp

G. & H. Products, Inc., St. Paris, Ohio 43072
Uni-Lift, motorized all-position stand for riding mowers, lifts up to 80 inches, 1,000 lb. loads, in less than 30 sec.

Game Time, Inc., The Toro Company, 903 Anderson Rd., Litchfield, Michigan 49252
Park and playground equipment, half-way houses for golf courses

Gandy Company, 528 Gandrud Road, Owatonna, Minnesota 55060
Gandy Turf Tender, for fertilizer, seed or granular chemical; 24 or 42-inch width
Gandy spreader 600 Series, for fertilizer, seed or granular chemical; 3, 4, or 5-foot width
Gandy Spreader 10A Series, for fertilizer, seed or granular Chemical, 6, 8, 10 or 11-foot width, pull-type and tractor mounted
Gandy Spreader 1020A, for fertilizer, seed or granular chemical; 20 foot; folding
Gandy disk mount, granular applicator; 3 to 20 foot, hydraulic or mechanical drive
Gandy Ro-Hi, high clearance granular applicator; 5 to 28-inch band
Gandy Line Tender, granular applicator; 1 to 21-inch band, handle control
Gandy Super/Junior, Granular applicator; 1 to 21-inch band, implement-mounted
Gandy Measuring Wheel, one-man land measuring in feet or meters

Garber Seeders, Inc., St. Paris, Ohio
Seeders, mounted and pull type

General Electric Co., Outdoor Power Equipment Operation, Corporations Park, Bldg. 702, Schnectady, N.Y. 12345
Tractors, electric/battery-powered, full line of attachments

General Scientific Equipment Co., Limekiln Pike & Williams Ave., Philadelphia, Pa. 19150
Aprons
Gloves

USE SOME SELF CONTROL

Ordinary slow release nitrogens just can't seem to control themselves. In fact, their behavior is as fickle as the weather.

Typical urea-formaldehyde nitrogens release very fast in hot weather and almost not at all in cold weather. They have very little self-control.

IBDU is a unique slow release nitrogen source. Its release rate is primarily dependent upon normal soil moisture and its own particle size.

And that means that IBDU gives the best feeding control. IBDU's release rate and availability won't drastically change when the weather or soil bacterial activity change.

By using IBDU, you can regulate your turf's response, because the rate at which your turf is fed is more closely controlled.

par ex® IBDU®
PROFESSIONAL PRODUCTS (isobutylidene diurea)

Now that you know you can control your turf's response more closely by using IBDU, and that only Par Ex contains IBDU, it makes a lot of sense to buy only Par Ex products.

That's using self-control.

SWIFT CHEMICAL COMPANY
111 West Jackson Blvd. Chicago, Illinois 60604

Please send me more information on IBDU.

Name _____

Firm _____

Address _____

City _____ State _____

Zip Code _____

Dept. #WTT

First aid kits
Aerosol burn spray

Giant-Vac Mfg., Inc., Machine Shop Road, South Windham, Conn. 06266
Giant-Vac, heavy-duty commercial vacuums
Giant-Blo, heavy-duty commercial blowers
Giant-Truck Loader, heavy-duty truck loaders, front or trailer mount from 12 through 68 horsepower
Giant-Thatcher, 5 and 7 hp—thatching machines

Ginther Equipment Corp., P.O. Box 311, Arcadia, Ca. 91006
Du-wiper, dew remover for greens
Clipping spreader, patented spreader-recycles grass clippings from green or tees
Turf drag, steel drag, breaks up grass or dirt lumps on fairways
Control stakes, steel stakes, types T & CP, with our golf course guide rope, controls flow of traffic
OB stakes, steel out of bounds stakes for controlling traffic
Golf course guide rope, plastics rope, ¼" hollow graided for use with our stakes in controlling traffic
Bag supports, for supporting golfers bags & clubs at driving ranges on earth or asphalt.
Custom signs, signs, steel, with customized messages.
Mity hyd. dump trucks and trailers, utility and personnel trucks, 5000 lbs. capacity with low ground pressure

Glendale Optical Co., Inc., 130 Crossways Park Dr., Woodbury, L. I., N.Y. 11797
Glengard head protection, 9500 series safety hat.

Goodall Div., 1405 Bunton Rd., Louisville, Ky. 40213
Goodall, mower, rotary
Goodall lawn-turf equipment

Gotham Chicago Corp., 2660 N. Clybourn, Chicago, Ill. 60614
Rose kones, winter protection for roses (foam plastic)

Granberg Industries, Inc., 200 So. Garrard, Richmond, California 94804
Clip-N-Trim, chainsaw pruning and hedge clipping attachment
Grind-R-Guide, electric grinder for saw chains
Break-N-Mend, hand-tool for repairing saw chain
Alaskan Mill, lumber making chain saw attachment
Mini-Mill, lumber making chain saw attachment
File-N-Guide, chain sharpening device
File-N-Joint, chain sharpening device

Grass Growers, Inc., P.O. Box 584, Plainfield, New Jersey 07061
Terra Tack, for erosion control, straw / hay tack and mulch binder

Gravely, Division Clarke-Gravely Corp., One Gravely Lane, Clemmons, N.C. 27012
816 4-wheel tractor, 8-spd. trans., 16 hp, Onan 2-cylinder engine (rear mounted)
812 4-wheel tractor, 8-spd. trans., 12 hp Kohler single cylinder engine (rear mounted)
810 4-wheel tractor, 8-spd. trans., 10 hp Kohler single cylinder engine (rear mounted)
408 lawn tractor, 34-inch rotary mower—8 hp Kohler engine
7.6 hp custom 2-wheel tractor, 30" rotary mower, 40" rotary mower, 50" rotary mower
7.6 hp 2-wheel tractor, rotary tiller, rotary plow, rotary cultivator
C-10 hp commercial 2-wheel tractor, 44", 38", 36" snowblowers, front mount 48" scraper
C-12 hp commercial 2-wheel tractor, blade, center-mount scraper blader, riding sulky for 2-wheel tractors

Greenlawn Sprinkler Co., 2200 South Lipan, Denver, Colorado 80223
Greenlawn, adjustable riser sprinkler heads, automatic and manual sprinkler valves, adjustable risers, greenhouse bench nozzles

Griswold Controls, 124 E. Dyer Road, Santa Ana, Calif. 92707
System control module, irrigation controller
Station control module, irrigation controller
Programmer, irrigation controller, check valve, flow control valve, solenoid control valve, pressure regulating valve, combination pressure regulating and solenoid control valve

Ground Hog, Inc., 25010 E. 5th St., San Bernardino, Calif. 92410
Ground Hog earth drills, 3 models (portable—gas powered)
Ground Hog trencher, Model T-3M (for sprinkler systems)

Grumman Aircraft Corp., S. Oyster Bay Rd., Bethpage, L.I., N.Y.
Aircraft, fixed wing

H

HMC, 22131 S. Vermont, Torrance, Calif. 90502
Jobber, utility vehicle—3-wheel
Jobmaster, utility vehicle—3-wheel
Diahatsu, utility vehicle—4-wheel
The Green Machine, weed & brush cutter, nylon blades

Hadfield Sod Roller Co., 6443 Sherwood, Oxford, Mich. 48051
Sod roller

Hahn, Inc., 1625 N. Garvin St., Evansville, Indiana 47717
Flex-A-Matic 140, five-gang reel mower
TT-1200 & TT-1201, greens management system, greens mowers, verti-cuts, spikers & tee mowers
Hyd. 5/7, 7 gang reel mower
Gang mowers, reel type, 3, 5, 7, & 9 gang mowers
Aerifiers, pull behind type

W. L. Hamilton Co., Lenter St., Bangor, Mich.
Spray guns
Pressure relief valves
Spray nozzles

Hancor, Inc., P.O. Box 1047, Finlay, Ohio 45840
Turf-Flow, drainage tubing, two-inch
Agri-Flow, drainage tubing, 4-inch, 6-inch, 8-inch, 10-inch, 12-inch

Clifford B. Hannay & Son, Inc., 422 Maple St., Westerlo, N.Y. 12193
Hannay Reels, reels to handle all kinds of hose and electric cable

Harbor Industries, Inc., P.O. Box 751, Beaver Falls, Pa. 15010
Harbor, soil moisture indicator

Harley-Davidson Motor Co., Inc., 3700 W. Juneau Ave., Milwaukee, Wisc. 53208
Golf cars and turf vehicles

Harvestall Industries, Inc., 3 North Walnut Ave., New Hampton, Iowa 50659
Truckler, combination forklift trailer

Hays Mfg. Div., Zurn Industries, Inc., 12th & Plum Sts., Erie, Pennsylvania 16501
Marfaid, automatic solonoid valves
Select-O-Rain, industrial controller
Safe-T-Rain, impact and pop-up sprinklers

Hemco Corporation, P.O. Box 210/111 N. Powell Rd., Independence, Missouri 64051

Tanks, fiberglass tanks for spraying or storage, 60 to 500 gallons
Travelite tool box, fits all wide bed pick-up trucks

Herd Seeder Company, Inc., P.O. Box 448, Logansport, Indiana 46947
Herd Sure-Feed, broadcast seeders (or broadcasters) for spreading seeds, fertilizer and granular chemicals, as herbicides and insecticides)

Hesston Corp., Lawn Equipment Division, 8640 Brookville Rd., Indianapolis, Ind. 46239
Hesston Front-Runner—grounds maintenance tractors, Model 200, 19.8 hp—Model 180, 18 hp—Model 160, 16 hp; 48", 60" mowers and 80" batwing mower head, self-contained vacuum pick-up (fits 48" & 60" mower heads only). Other attachments: rotary broom, dozer, snow thrower and tillage equipment; features hydrostatic drive, articulated steering, "up-front", roomy operator cockpit
Hesston stump cutter, 8 hp Briggs & Stratton engine, portable, replaceable
Hesston, tractor, 16 hp, 18 hp, 19.8 hp; mower—rotary 48", 60", 80"; vacuum collector, snow-plow dozer blades, rotary broom, cultivators, 42" wide— disc harrow—29"-39" cutting width, aerator, 36" wide, stump cutter, stump removal to 8" below ground level
Litter Vacuum
V-Plow
Two-stage snow thrower

Highway Equipment Company, 616 D Ave. N.W., Cedar Rapids, Iowa 52405
Hi-Way Model P, utility, hopper-type spreader body that is simply set into a truck body to convert pickup, flatbed or dump body into spreader unit; spreads sand salt or cinders up to 40 ft; used too, to spread fertilizer and lime in landscape work

Hoffco, Inc., 25 Washington Ave., Richmond, Ind. 47374
Hoffco, P8—power Scythe, MP—brush cutter, 973—one-man post hole drill, 1000—2-man (2 cycle) post hole drill, 1100—2-man (4 cycle) post hole drill
Comet Jac-Lift, 2000 lb. winch hoist

Holsclaw Bros., Inc., 1325 E. Virginia St., Evansville, Indiana 47711
Holsclaw flat bed trailers, flat bed trailer suitable for carrying golf carts, mowers and many other items

Homelite, 70 Riverdale Ave., Port Chester, N.Y. 10573
Saws, chain, 18 models; 8¾-26 lbs. weight; 12-60 inch bar length; manual, automatic and dual system chain oiler

Hortiscape, Inc., 7866 Second St., Dexter, Michigan
Hortiscape Landscape Border Edging
Hortiscape Tree Guying units

Howard Rotavator Co., Inc., 343 S. Division, Box 100 Harvard, Ill. 60033
Howard Turf Quakers, turf aerification machines
Howard Rotavators, rotary tillage equipment
Howard Power Arms, 3-pt. linkage backhoes
Electrical generators
Howard Magnates

Hub States Corporation, 2000 North Illinois Street, Indianapolis, Ind. 46202
520 sprayer, gas powered, high pressure
702 sprayer, electric powered, volume
730 sprayer, electric powered, high pressure
970 sprayer, gas powered, volume
810 sprayer, gas or electric, portable

H. D. Hudson Manufacturing Company, 154 E. Erie St., Chicago, Illinois 60611
Hudson manually-operated sprayers, compressed air, 1-1/3 to 4 gallons, steel and polyethylene tank; knapsack, 4½ to 5 gallons; slide-pump; wheelbarrow, 17½ gallons; barrel and bucket spray-pumps; intermittent and continuous plunger-operated, 5 oz. to 2-2/3 qts.
Hudson manually-operated dusters, plunger, 1-lb. capacity; crank-operated, 14-lb. capacity; knapsack, 17-lb. capacity
Hudson power sprayers, 12½, 15, 30, 50, 100, 150, 200 and 300 gallons, 3, 5 and 10 GPM output, 100 to 300 lbs. pressure; on wheels and skids, PTO and self-powered, jet and mechanical agitation
Hudson power dusters, PTO and engine powered, 6, 4, 2 and 1 outlet; litter-types
Hudson power spray-pumps, 3, 5 and 10 GPM, piston pumps, 250 and 400 lbs. pressure
Hudson PTO pump kits, positive piston, roller
Hudson spray booms, 4, 20 and 30 feet long, for PTO and engine powered sprayers, fixed and adjustable nozzle, single nozzle broad-spray
Hudson spray guns, single, double, triple nozzle; adjustable
Hudson power sprayer accessories, guns, booms, trailers (fixed and adjustable tread), tanks, tractor barrel mounts, wheels, cab top, elevated operator platform, telescopic gun mast, nozzles, boom drops, boom control valves, hose, hose clamps, hose fittings, tank refiller, pressure gauges, hose reels, pressure regulators, root feeder, flower gun, 3-nozzle gun, lawn booms
Hudson flame sprayers, 1½ pints, 1½ to 4 gallons

Husqvarna, Inc., 151 New World Way, South Plainfield, New Jersey 07080
Chain saw, gasoline engine powered

Hydraulic Products Co., Inc., 501 East 42nd, Lubbock, Texas 79404
HPC submersible, vertical turbine and vertical can pumps for irrigation, homes, cities and industries

Hydroponic Chemical Co., Inc., Box 4300, Copley, Ohio 44321
Root feeding rods, sod testers

Hydro-Turf, P.O. Box 3, Elk Grove, Ill. 60007
Hydro Turf, spraying equipment, sprinkler systems—above ground, seeders, portable pumps, portable generators, flexible hose and pipe, Hydro seeders and mulchers

Hypro Division, Lear Siegler, Inc., 375 Fifth Ave. N.W., New Brighton, Minn. 55112
Hypro, sprayer pumps, sprayer pump accessories, transfer pumps

I

ITT Marlow, P.O. Box 200, Midland Park, N.J. 07432
Pumps, irrigation, portable, submersible

Ideal Crane Div., Bert Parkhurst, 15051 E. Admiral Pl., Tulsa, Okla. 74116
Ideal Crane, hydraulic truck crane (can be operated both electrically and by hand) very rugged; 3000 lb. capacity electrically-operated crane is $513.00; 2500 lb. capacity hand-operated crane is $215.00; barrel chain and nursery sling available

Imperial Underground Sprinkler, 705 E. 31st St., Kansas City, Mo. 64109
Irrigation, spray heads and controllers

Inject-O-Meter Mfg. Co., Inc., 820 Thornton, Clovis, New Mexico 88101
Fertilizer Injectors, for injection of fertilizer, herbicide or insecticide in irrigation stream (available with tanks)

International Harvester Co., 401 N. Michigan Ave., Chicago, Ill. 60611
International, tractors to 101 hp, crawlers 42 to 69 hp, mowers, rotary cutters; flail type; side mounted sickle;

backhoes and loaders, all sizes 3-point hitch backhoe
International 3200, compact loader, 30 hp

International Harvester (Consumer Products) 401 N. Michigan Ave., Chicago, Ill. 60611
International, lawn and garden tractors, 8, 10 & 12 hp gear drive; 10, 12 & 14 hp hydrostatic drive
Cub Cadet, Cadet 55 and 75, riding mower
Cadet 76, lawn and garden tractor
International 526, rotary tiller
International 95, electric riding mower plus 95 Cadet electric
International 265 & 268, snowblower
International, rotary mowers 19 & 21-inch cuts

Irrigation Supply Co., 924 Baxter Avenue, Louisville, Kentucky 40204
Preassembled pumping stations for irrigation systems
Buckner sprinklers
J-M pipe; ametek valve boxes; dresser gate valves; and complete stock of irrigation and utility fittings and supplies

Irrometer Company, Inc., P.O. Box 2424, Riverside Calif. 92506
Irrometer moisture measurement equipment, hermetically sealed pressure gauges for pumps & irrigation systems, automatic moisture sensing devices

J

JLM Products & Design, 6805 Boysenberry Way, Colorado, Springs, Colo. 80907
Soil moisture meter, tested to 12-inch depth, deeper depth units available

Jacobsen Manufacturing Co., 1721 Packard Ave., Racine, Wisconsin 54303
Mower, rotary, push, 20-inch; self-propelled, 21-inch; riding, 60-inch
Mower, reel, self-propelled, riding, tractor, 30-inch to 25 ft., mounted and pull behind gang
Mowing tractors, reel, 76-inch to 19 ft.
Mower, greens; 22-inch self-propelled, triplex riding, 62 inches
Aerators, self-propelled and tractor mounted, 18-inch to 7 ft.
Turf Sweeper, self-propelled and pull behind 48 inches and 60 inches
Seeders, self-propelled and tractor mounted, 21-inch and 48-inch
Top Dresser, self-propelled and truck mounted, 36-inch spreading width
Sod Cutter, 12-18 inch cutting width
Edgers
Utility truck, 12 and 14 hp
Trailer, 6 ft. wide and 10 ft. long, tilt bed, single axle
Pipe Piper, 10, 14, 18 hp irrigation pipe pullers; bury the pipe without removing the earth, no trenching

Jameson Corporation, P.O. Box 15277, Charlotte, N.C. 28210
Fiberglass "Safe Stick", fiberglass pruner poles—single sections up to 12 ft. long; fiberglass pruner poles—sectional sections up to 12 ft. long which can be locked together for any desired combination of lengths. Poles will accommodate all pruner heads; "safety yellow"—color

Jeep Corporation, 14250 Plymouth Road, Detroit, Michigan 48232
Jeep 4-wheel drive vehicles, Jeep CJ-5/CJ-6 and Jeep Cherokee 4-wheel drive sport/utility vehicles, Jeep Wagoneer 4-wheel drive station wagons and Jeep 4-wheel drive pick-up trucks (light/medium duty)

Jobu Chain Saws, P.O. Box 6023, Texarkana, Texas 75501
Chain saws

Johnson Hydraulic Equipment Co., Div. Arps Corp., 1711 Wisconsin Ave., New Holstein, Wisc. 53061
Work Horse Loader, for compact tractors and front-end loader
Work Horse Terra-blade, for compact tractors belly-mount blade
Work Horse Terra-comb, for compact tractors, combination thatcher and power rake

Johnson's Industrial Supply Co. (Jisco) 1941 Karlin Dr., St. Louis, Mo. 63131
Jisco earth augers, the quick easy professional way for home owners to deep root feed their trees, bushes and shrubs

Jomac Products, Inc., 863 Easton Road, Warrington, Pa. 18976
Protective clothing, partial or complete protection
Gloves, chemical and waterproof gloves for handling chemicals

K

K-D Manufacturing Company, P.O. Box 4547, Waco, Texas 76705
K-D Kurb Dresser, edges streets, curbs and walks; mounts on tractor equipped with category 1, 3-point hitch; can be used to edge along concrete or asphalt
K-D Rough Terrain Lift Trucks, lift capacities, 5,000 to 8,000 lbs., lift heights to 30 feet, large flotation tires for soft ground and rough terrain, gas or diesel engines, manual or power reversing transmissions

F. D. Kees Mfg. Co., 700 Park Avenue, Beatrice, Nebraska 68310
Powerake®, thatcher, lawn
Powerslice®, aerator, lawn
Kom-pak, shredder
Kaster, spreader, broadcast, fertilizer, seed, lawn
Krawler, sprinkler, traveling, lawn

Kemp Shredder Co., 1027 E. 26th St., Erie, Pa. 16505
Shredders

Kinco Mfg., 2368 Territorial Road, St. Paul, Minnesota 55114
Kinco KMG 38, sickle bar mower
Henderson GPM, verti-cut and flail-type mower

King Bros. Industries, 251 Powell Rd., Fillmore, Calif. 93015
Flex-Riser®, flexible riser for sprinkler systems
Sta-Stake®, sprinkler riser support

Knaack Manufacturing Co., 420 East Terra Cotta Ave., Crystal Lake, Ill. 60014
WeatherGuard, storage chests and ladder racks for pick-up trucks (for equipment and tools).
Knaack, storage chests, work benches, and tool boxes

Kohler Co., High Street, Kohler, Wis. 53044
Kohler, 4-cycle, air-cooled engines, 4 hp to 24 hp

Kubota Tractors, Inc., 6245 Grand Ave., Los Angeles, Calif. 90014
Tractors, up to 40 hp

Karl Kuemmerling, Inc., 4536 Lincoln Way, E., Massillon, Ohio 44646
Willson, safety hats
Mitts & Merrill, brush chipper (territory Ohio, Ky., Western Pa., Western N.Y., W. Va., Md. from Hagerstown west)
Solo, sprayers
Hodges, stump router (territory E. of Mississippi)
Seymour Smith, pruners
Fanno, saws
Greenlee, tools
Carhartt, uniforms

Nortec, log splitter
Little Wonder, pruners
Champion, pruners
Skod, saws and pruners
B.V.D., saws and pruners
Standard, brooms
Wall Rope Co., rope
Klein, tools
Whitlock—Plymouth, rope

L

Lakes Supply Co., Inc., P.O. Box 101 Dundee, Ill. 60118
Toro, landscape seeders and rollers
Lakes Supply Co., Inc. drip weed roller applicator
Western, snow plows
Toro, lawn mowers
Huffy, lawn mowers and riders
Hahn Eclipse, lawn mowers and riders
Jacobsen, lawn mowers and riders
Ariens, lawn mowers and riders
WD-40, lubs.
Hoists for pickup trucks & larger

Lakeshore Equipment & Supply Co., 10237 Berea Rd., Cleveland, Ohio 44102
Replacement parts, mowers
Golf accessories, flags, cups, etc.
Lesco sprayers
Lesco karts

Lakeside Mfg. Company, Inc., 39 E. Main St., Honeoye, N.Y. 14471
Trailers, industrial, 6 to 15-ton rated capacity

Lancaster Pump & Mfg. Co., Inc., 1340 Manheim Pike, Lancaster, Pa. 17604
Saws, chain, five models, 8½-15 lbs. weight, 12-24-inch bar lengths, manual and dual system chain oiler

L. L. Larson Machine, Inc., 1017 N. Santa Fe, P.O. Box 308, Princeville, Illinois 61559
Sprayer pump, piston, roller & centrifugal
Portable water pumps, centrifugal, roller & piston
Sprayer nozzles, broadcast & hi pressure
Sprayers for ground coverage, broadcast & spot application
Sprayers for trees, 20 ft. x 50 ft. application
Sprayers for turfs, broadcast & spot application
Sprayers, fertilizer-mounted, broadcast & spot application
Spreaders, fertilizer, pull-type, broadcast 40 ft. pattern

Laval Separator Corp., 1899 N. Helm, Fresno, California 93727
Laval Separator, hydro-cyclone de-sanding device that eliminates 98% of +200 mesh sand and grit. Can be installed on pump discharge or suction. Available in flow rates from 3-4100 gpm. Has a low pressure loss; often used in place of filters or screens

Lawn-Boy, OMC-Lincoln, P.O. Box 82409, Lincoln, Nebraska 68501
Lawn-Boy, solid state ignition rotary mowers, deluxe model rotary mowers

Lawn Medic, Inc., Manufacturing & Research, 10 Gates Street, Bergen, New York 14416
Porto-Mixer, hand-operated small 1 c.y. portable tumbler

Lehara Equipment Co., Inc., Edgeboro Rd., East Brunswick N.J. 08816
Lehara Hy-Dro Flail, hydraulic extension mower—for mowing behind guard rails, up and down banks

Leigh Products, Inc., Coopersville, Michigan 49404
Universal-Spray Doc, sprayer—tank; sprayers—open top tank
Universal, slide sprayer; flame sprayers; hose-end sprayers; power sprayers; continuous and intermittent hand sprayers; hand dusters; fogger—mineral base

The Lely Corporation, P.O. Box 1060, Route 301, Wilson, N.C. 27893
Lely Broadcaster/Seeder, P.T.O. driven, lift and pull-type spreads fertilizer, seed, sand or chemicals
Lely Roterra, P.T.O. driven power harrow, horizontally contro-rotating tines, prepares seedbed, incorporates chemicals, levels and firms land

Levco Manufacturers, Inc., P.O. Box 72, Wynne, Arkansas 72396
Model HD50 Stump Grinder, a one-man stump removal system offering unequalled maneuverability and speed; operates behind a standard pickup truck (½-ton) or small tractor; features include industrial, water-cooled power unit and self-contained hydraulic system

Fred A. Lewis Company, 40 Belknap Rd., Medford, Oregon 97501
Lewis "Mole", post hole digger powered by your chain saw
Lewis "Donkey" Winch, winch powered by your chain saw
Lewis Tractor "Mole", post hole digger attachment to small tractors (front end attachment)

Lifetime Career Schools, 2251 Barry Ave., Los Angeles, Calif. 90064
Landscape training. Complete home study training in landscaping and ground care; free booklet describes training in detail

Lift-Quik Mfg. Co., South Min St., Evans Mills, N. Y. 13637
Lift-Quik, garden, golf cart, lift

Limb-Lopper Co., Inc., Div. of Robinson Ind., 11845 Burke, Santa Fe Springs, Calif. 90670
Limb-lopper: hydraulic & air: pruners, saw. Hydraulic: pruner, chains saw, circular saw, impact wrench, drill, tamper. Electric: circular saw

Lindig Manufacturing Corporation, 1875 West County Rd. C, St. Paul, Minnesota 55113
Lindig, shredders (soil and compost)—manual and tractor fed, capacity up to 200 yards/hour; screeners (powered) for soil and sand; brush chippers, 7 to 160 hp, compact and full size for branches up to 8" in diameter, also PTO drive; soil treating (sterilization) systems; leaf shredders and compost pulverizer/mixers
Lindig Kajon, compact brush chippers 7 to 10 hp
Lindig Concho, compost shredder/grinder

Locke Mfg. Div. Stellar Lawn Care, 1085 Connecticut Ave., Bridgeport, Conn. 06607
Mowers, reel, self-propelled and riding, 30 inches to 87 inches; rotary

Lockwood Corporation, Box 160, Gering, Nebr. 69341
Lockwood Hardie Sprayers, airblast sprayer, 300 or 500 gallon stainless steel tank, trailer mount; utility (general purpose) 100 to 500 gallon stainless steel tanks. Truck trailer or skid mounted; shade tree—600 gallon stainless steel tank, truck mounted

Lombard Power Equipment, Sales Ave., Harrison, Ohio 45030
1500 electric, saw, chain, 12-inch bar; 12 amps
Pony, saw, chain, gasoline, 12-inch bar, 6½ lbs.
Comango, saw, chain, gasoline, 16-inch bar
Super comango, saw, chain, gasoline, ½ "anti-vibe," automatic oiler
Super Lightning, saw, chain, gasoline, ½ "anti-vibe," automatic oiler, 20-inch bar; saw, chain, gasoline, full "anti-vibe," automatic oiler

London Fog Company, Crystal Bay, Minnesota 55323

London Foggers, thermal foggers from 3 hp hand portable through 16 hp heavy-duty
London Aire, ULV insecticide dispersal equipment from 5 hp dolly mounted type through 9 hp extra heavy-duty for large area mosquito control

Lumenite Electric Co., 2331 N. 17th Ave., Franklin Park, Ill. 60131
Lumenite, lawn irrigation control and equipment
ELS-5 and 11; 5 station and 11 station economical lawn irrigation controls
LAS-6PC to 40PC; 6 station to 40 station deluxe lawn irrigation controls
RDC-1000 rain detector control with variable sensitivity
RDP-1000 rain detector probe assembly

Lupton Enterprises, 32 Martha St., Tiffin, Ohio 44883
Log splitter, attachment to backhoe, replaces bucket in minutes

M

M-B Company, 1615 Wisconsin Ave., New Holstein, Wis. 53061
Brush Chippers, trailer mounted—12" and 15" sizes 120-158 hp gasoline engines
Orchard Chipper, tractor 3-point hitch attached PTO driven (540 RPM), 12" wide chipper with feed apron and 180° discharge chute
1-10, 3-10, 5-10, line marker, hand operated
Fitchburg chipper, brush chipper 12 in. and 15 in.
Tractor Brooms, sweepers

Maasdam Pow'r Pull, Inc., P.O. Box 6130, Burbank, Calif. 91510
Maasdam Pow'r Pull, winch-puller

Magline, Inc., 503 S. Mercer, Pinconning, Mich. 48650
Trailevator®, trailer, hydraulic elevating

Mars Industries, Inc., 5209 West Broadway, Minneapolis, Minn. 55429
Suburban Pick-up sweepers, tow-type for turf and hard surface sweeping

Martindale Electric Co., 1375 Hird Ave., Cleveland, Ohio 44107
Martindale Protective Mask, respiratory protection against non-toxic dusts
Martindale Protective Eyeshield, one-piece eyeshield

Massey-Ferguson, Inc., (Industrial Products) 1901 Bell Ave., Des Moines, Iowa 50315
MF 20, industrial tractor, 38 hp
MF 30, Industrial tractor, 52 hp
MF 31, industrial tractor, 70 hp
MF 40, industrial tractor, 38 hp
MF 20 Turf, industrial tractor, 38 hp
MF 30 Turf, industrial tractor, 52 hp
MF 20, 30, 40, 50A, 70, backhoe-loader; ⅝ cu. yd., ¾ cu. yd., ⅝ cu. yd., 1 cu. yd. respectively; up to 16 ft. digging reach; all but MF 70 available separately
MF 711, skid steer loader
MF 40, forklift
MF 2500, forklift
Box scraper, landscape

Massey-Ferguson, Inc., (farm equipment), 1901 Bell Ave., Des Moines, Iowa 50315
MF 135, tractor, 38 hp (PTO)
MF 165, tractor, 50 hp (PTO)
MF 175, tractor, 63 hp (PTO)
MF 180, tractor, 63 hp (PTO)
MF 1080, tractor, 80 hp (PTO)
MF 1105, tractor, 100 hp (PTO)
MF 1135, tractor, 120 hp (PTO)
MF 1155, tractor, 140 hp (PTO)
MF 1500, tractor, 150 hp (drawbar)
MF 1800, tractor, 180 hp (drawbar)

Massey-Ferguson, Inc., (consumer products), 1901 Bell Ave., Des Moines, Iowa 50315
MF 14, garden tractor, 14 hp
MF 126, garden tractor, 12 hp
MF 10, garden tractor, 10 hp
MF 310, self-propelled rotary mower, 3.5 hp
MF 210, push rotary mower, 3.5 hp
MF 58, 68, 61, 71, rotary cutters, cutting widths up to six feet

Mathews Company, P.O. Box 70, Crystal Lake, Ill. 60014
Lawn Genie, flail mower-sweeper-mulcher, 3 ft. and 6 ft. models

Maxey Manufacturing Co., Inc., P.O Box 2001, Ft. Collins, Colo. 80521
Trailers, equipment trailers—medium duty
Truck Bodies, customized truck beds
Snow grooming, ski area and snowmobile trail grooming and snow moving equipment

McCabe-Powers Body Co., 8900 N. Frost, St. Louis, Mo. 63115
Buckets, aerial towers

McCulloch Corp., 6101 W. Century Blvd., Los Angeles, Calif. 90045
Chain saws, (15 models)
Hedge trimmer
Portable earth drill
Portable electric generators, 1500, 2000 and 3000 watt
Brush cutter

McDonough Power Equipment, Inc., McDonough, Georgia 30253
Mower, rotary, push-type and riding; reel, self-propelled

Melnor, Industries, Turf Div., 1 Carol Place, Moonachie, New Jersey 07074
Shrub nozzle adapters
Stationary spray heads
Pop-up spray heads
Rotary spray heads
Pulsating spray heads
Solenoid valves
Time controls
Quick coupler valves
Pipe and fittings
Underground irrigation systems, stationary & pop-up

Melroe Division, Gwinner, North Dakota 58040
Bobcat, front-end skid steer loader

Metro-chiper, Vestor Div., Morbark Ind., Winn, Mich. 48996
Chippers, for large tree chipping

Miller Tilt top Trailer, Inc., 450 S. &2 St., Milwaukee, Wis. 53214
Tilt Top®, machinery hauling trailer, changes quickly from between the wheel to over the wheel trailer
Ramp Champ®, over-the-wheel platform trailer; both trailers available with new gooseneck hitches

Mid-State Metal Casters & Mfg. Co., 2689 So. 10th St., Fresno, Cal. 93725
Sweep, vacuum; yard
Blower, leaf blower (wind-row)

Mine Safety Appliances
Masks, dust, gas
Protective clothing
Safety belts and equipment
Respirators

Mitts & Merrill, Inc., 109 McCoskry St., Saginaw, Michigan 48601

ROOTS

When you talk ROOTS, you're really talking about a combination of several important characteristics.

Density. Vigorous Growth. Rhizome and tiller development. Hardiness.

At E. F. Burlingham & Sons, we know.

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One of the outstanding characteristics of this variety was its dense, rapid spreading root system. In this case, the roots were primarily responsible for the important winter hardiness, disease and drought-resistant characteristics which mark this Swedish import.

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E. F. Burlingham & Sons, P.O. Box 217, Forest Grove, OR 97116. Phone: (503) 357-2141; Telex 36-0274; Cable: Burlingham.

E. F. BURLINGHAM & SONS

* Bonnieblue, Majestic, Sydsport and Birka Kentucky Bluegrasses and Koket Chewings Fescue.

For More Details Circle (116) on Reply Card

Chipper, brush, staggered knife pattern, swing away folding feed chute, positive safety lock pin

Mobile Aerial Towers, Inc., 2314 Bowser Avenue, Fort Wayne, Indiana 46803
Hi-Ranger, personnel platforms

Moody Sprinkler Co., Inc., 3020 Pullman St., Costa Mesa, Calif. 92627
Rainmaster, automatic valves, electric and hydraulic; automatic controllers, electric and hydraulic; sprinklers—pop-up and stationary heads

Morbark Industries, Inc., P.O. Box 1000, Winn, Michigan 48896
Morbark Total Chiparvestor's, portable disc type chipper reduces whole trees, limbs in tact to dimensional wood chips. Two models. One unit will reduce 21" diameter material, the other 18" diameter material in less than one minute.

Mott Corporation, 500 Shawmut Ave., LaGrange, Illinois 60525
Industrial, commercial, institutional grade flair type safety mowers, styles are walk behind or ride behind; tractor mounted & powered front, mid or rear; tractor drawn self powered used singly or in gangs; and side mounted (tractor) hydra-dynamically driven

MTD Products, Inc., 5389 W. 130 St., Cleveland, Ohio 44111
Rotary Vacuum Shredder Bagger, 5 hp, 3 stage cutting action blade

Mud Cat, Div. of National Car Rental, 5501 Green Valley Dr., Minneapolis, Minn. 55431
Weed harvester, aquatic

The F. E. Myers & Bro. Co., 400 Orange Street, Ashland, Ohio 44805
Turf Line, TL 10 E2 10 GPM-500 PSI 200 gallon — paddle agitator; TL 10 E2S 10 GPM-500 PSI 200 gallon—skid model; TL 35 E5 35 GPM-800 PSI 500 gallon—engine—rotary agitator; TL 29 100 GPM-29" fan—150 gallon—engine—mist sprayer

N

National Hydro-Ax, Inc., Box 568, Owatonna, Minnesota 55060
Model 500 hydro-ax brush cutter, 117 h.p., 4 wheel drive, articulate steering, front axle oscillation, 8 foot wide rotary cutter
Hydro-Ax's unique dual hydrostatic system insures full cutter power while maintaining maximum tractive effort . . . even during inching.

National Mower Co., 700 Raymond, St. Paul, Minn.55114
National, 84" National Triplex Reel, 10 hp riding Reel; 68" National Triplex Reel, 10 hp riding reel; 68" National Triplex Reel, 8 hp; 30" National Triplex Reel, 8 hp riding reel

L. R. Nelson Corporation, 7719 N. Pioneer Lane, Peoria, Illinois 61614
Rain Train, traveling sprinklers
Silver Rain, pop-up sprinklers, landscape and turf irrigation equipment

Nunes Manufacturing, 2006 Loquot Avenue, Patterson, California 95363
Nunes Sod Harvester, complete mechanical sod harvester; mounted on Ford Model 4110 tractor; front cutoff and cutter assembly; will eliminate sod cutter labor; available in styles to: fold, slab, roll, sod.
Nunes Vacuum Sweeper, turf sweeper designed for sod growers; available with PTO drive or motor driven

O

Oberdorfer Foundries, Inc., Agri. Pump Div., Thompson Rd., Syracuse, N.Y. 13201
Pumps, bronze and aluminum, rotary gear, rubber impeller, rubber cotlar, centrifugal, helical rotor

Olathe Mfg., Inc., 2nd and Mullberry, Paola, Kansas 66071
Olathe Model 800 Quiet Chipper, brush, limb and lumber chipper with new patent pending noise control features
Model 8 Stump Cutter, portable stump remover, 8 hp
Model 12 Chipper, 3-pt. hitch PTO powered brush chipper
Model 172 and 330 pers, trailer mounted engine powered brush chippers
Model 400 hydraulic power unit, 8 hp portable hydraulic power unit

Omark Industries, Inc., Oregon Saw Chain Division, 9701 S. E. McLoughlin Blvd., Portland, Oregon 97222
Oregon Saw Chain, saw chain and accessory items
Oregon Power Mate and Super-tronic saw bars
Oregon Power Mate, rim and drum sprockets

Onan Division of Onan Corp., 1400 73 rd Ave. N.E., Minneapolis, Minn. 55432
Engines, 12-25 hp
Generators, electric portable-15KW
Battery chargers

Otis Elevator Company—Special Vehicle Division, P.O. Box 8600, Stockton, Calif. 95208
Otis Golf Car, electric, 4-wheel, 36 volt
Otis Turf-Awl, gasoline, 3 and 4-wheel, 18 hp

Otis Materials Handling, Div. Otis Elevator Co., 8000 Baker, Cleveland, Ohio
Forklifts

P

Papec Machine Co., Shortsville, N.Y. 14548
Leaf blower

Par Aide Products Co., 296 No. Pascal Street, St. Paul, Minnesota 55104
Complete Line of Greens and Tee Accessories equipment including: golf ballwashers, flag poles and flags, tee towels, detergent for golf ballwashers, aluminum and plastic putting cups, hole cutters, cup setter, cup puller, rule signs, custom tee plaques, furniture for locker room and tee benches; spike rushes, sand trap rakes, etc.

Parco Products Co., Pottstown Ave. & Dotts St., Pennsburg, Pa. 18073
Dragon Model 180, backpack sprayer

Pargo, Inc., 4300 Raleigh St., Charlotte, N.C. 28205
Pargo golf carts, Models 803 & 804, 3 & 4 wheel electric golf carts

Empire, 4 wheel electric personnel carrier
Bahama Bar Car, 4 wheel electric serving vehicle

Parker Sweeper Company, Box 720, Springfield, Ohio 45501
Estate Master, 3-gang sweeper for turf or large area cleanup
Hurricane Blowers, for windrowing leaves etc. for easy collection
Trail Thatch, a large three-gang Thatch-O-Matic for dethatching large areas

Partner Industries of America, Inc., 2733 W. Fulton, Chicago, Ill. 60612
Saws, chain, six models, 10½-17 lbs. weight, automatic chain oiler

Perma-Rain Irrigation, Inc., P.O. Box 880, Lindsay, Calif. 93247
Filter, sand, silt, etc. (irrigation)
Emitter, "E1" for irrigation—trees/shrubs; "Perma-Flo E1"
Fogger, Perma-Rain, for tree and shrub irrigation and plant cooling

R. E. Phelon Co., Inc., 70 Maple Street, East Longmeadow, Mass. 01028
Phelon, flywheel type ignition
Repco, systems and repair parts

J. Pickrell Co., 734 E. Southern Pacific Dr., Phoenix, Ariz. 85034
Mogator Utility tractor, two-passenger, 25 hp gas, 3,000 lb. load capacity, four-wheel drive, center articulated steering; accessories; hydraulic dump bed, cab and windshield, hyd. blade

Pioneer, OMC-Lincoln, P.O. Box 82409, Lincoln, Nebraska 68501
Pioneer P 40, 4.0 cu. inch engine chain saw for professional use
Pioneer P 20, 3.1 cu. inch displacement chain saw for casual use
Pioneer P25, 3.1 cu. inch displacement chain saw for casual use
Pioneer 1200 A, 3,546 cu. inch displacement chain saw

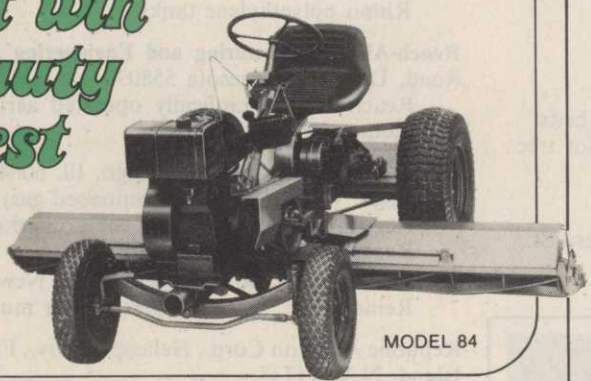
Piper Aircraft, Bald Eagle Street, Lock Haven, Pa. 17745
Aircraft, fixed wing

Piqua Engineering, Inc., 234 First St., Piqua, Ohio 45356
Lickity Log Splitters
Lickity Brush Chippers
Lickity Can Compactors
Piqua Paper Balers

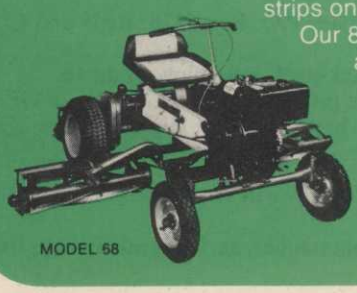
Pitman Manufacturing Co., Div. A. B. Chance Co., P.O. Box 120, Grandview, Mo. 64030
Aerial bucket, ML-28, ML-32
Digger/derrick PC 650
Hydraulic truck crane HL-140

Plasti-Chain Corporation, P.O. Box 267, Hebron, Illinois 60034 (312) 272-5137
Plasti-Chain Polymer Chain and Steel re-inforced Ground Posts, for use around golf course tees, cart pathways, etc.; connecting links and S-hooks also available; each of 3 sizes in chain and all-purpose posts available in white and black; chain available also in blue, red, green, and yellow
Estate Fencing, plastic chain and steel re-inforced posts pre-packaged as follows: Corner Pack Kit, contains 3 posts and two 10-foot lengths of chain; available in black, white, or in combinations; perfect for fencing off restricted areas or to indicate danger areas
Guideline Lane Equipment, available in 40-inch high/2½-inch diameter, heavy duty "base" stanchion; in black, or white supplemented by two sizes of plastic chain

A workhorse won't win a beauty contest



You won't find fancy shrouds, shiny hubcaps or chrome accent strips on a NATIONAL "workhorse." Our 84" and 68" Triplex Mowers are not designed for beauty ...*Just performance and durability!*



☐ **FAST!** With an 84 and 68-inch cut, NATIONAL Triplex mowers cut grooming time in half around greens and traps.

☐ **EFFICIENT!** National's Triplex maneuvers sharply, climbs banks and hillsides easily and safely. Three, power driven, free-floating reels follow ground contour. Reels do a precision job without skip or scalping. Handles the clubhouse lawn and practice areas, too!

☐ **DURABLE!** Timken bearings; automotive-type transmissions; heavy duty, tubular steel tie rods and bed knife frame; and cutter lip bar...all add up to more years of use!

☐ **SERVICEABLE!** No-nonsense design makes normal service faster than any mower on today's market!

NATIONAL...our reputation is your guarantee of quality! Our start in 1919 makes us one of the (if not the) oldest power mower manufacturers in the U.S.A.

NATIONAL Mower Company
660 Raymond Avenue • St. Paul, Minnesota 55114
Phone: 612/646-4079

available in black, white, red, blue, green, or yellow; connecting links and S-hooks also available by color; Guideline Lane Equipment is ideally suited for directing crowds at all indoor functions, outdoors in parking lots or at field events, or where ever people gather; easy to set up, move, remove, or store; permanently attractive, requires no maintenance. Stanchion can be weighted with sand or water via hollow base

Plastic Techniques, Inc., P.O. Box 197 New Boston, N.H. 03070
Plastic Techniques, aerial lift truck accessories

Plastiline, Inc., 1251 N.E. 48 St., Pompano Beach, Fla. 33061
Plastic pipe fittings
Wedge-O-Flex gasket fittings

H. K. Porter, Inc., 74 Foley St., Somerville, Mass. 02143
Cutters, bolt, rod, cable, chain, etc.
Shears, lopping
Trimmers, tree
Shears, pruning
Cutters, brush and root

Beaird-Poulan Division, Emerson Electric Co., 5020 Flournoy-Lucas Rd., Shreveport, La. 71109
Poulan, gasoline chain saws; electric chain saws

Power Spike Mfg. Co., Walters, Okla. 73572
Power Spike, spiker

Precision Chipper Corporation, Box 360, Leeds, Ala. 35094
Chipper, heavy-duty, industrial, feed through rate of about 125 feet per minute

The Prestolite Company, 511 Hamilton Street, Toledo, Ohio 43694
Batteries, spark plugs, ignition parts, magnito ignition systems, wire and cable

Princeton Manufacturing Co., 2625 Johnstown Road, Columbus, Ohio 43219
Princeton Sod Harvester, self-propelled harvester, cuts and stacks sod on pallets

Product Development International, Box 676 Liberty, S.C. 29657
Tree-Injectors, systemic tree injection kit
Riggin'-Buddy, rigging device for tree workers
Magic Knot, mechanical fastener for rope tying
Quick Cablers, easy tree bracing system
Tool Holders, for holding tree workers tools on belts
Climber's Tie-In Strap, lightweight safety strap for tree climbers
Training Manuals, for all tree care people

Public Health Equipment & Supply Co., 1720 So. Presa St., San Antonio, Texas 78210

Swingfog SN 11 high performance fog generator (thermal)
Fontan knapsack sprayers
Fontan knapsack dusters
Fontan knapsack granular applicators
Fontan knapsack flame throwers
Lownes engineering "Leco" ULV cold fog generators
Buffalo turbine sprayers, dusters and ULV equipment

Q

Quadra Mfg. Ltd., Box 491, Trail, B. C., Canada
Frontier, super-light weight chain saws

Quality Marsh International, P.O. Box 406, Thibodaux, La.
Quality, amphibious marsh and swamp equipment; amphibious draglines; amphibious personnel carriers; amphibious roto booms

R

R.A.M. Industries, Inc., 125 N. 10th. Street, Waukee, Iowa 50263
R.A.M. Industries, Inc., Schuster gooseneck trailer line: grain, livestock, flatbeds, machinery

RainBird Sprinkler Mfg. Corp., P.O. Box 37, Glendora, Calif. 91740
Impact sprinklers, spray heads, rotor pop-up sprinklers, electric valve-in-head sprinklers, hydraulic valve-in-head sprinklers, quick coupling valves, manual angle valves, electric remote control valves, hydraulic remote control valves, electric and hydraulic automatic controllers, specialty valves, valve markers, electric underground cable

Rain Jet Corporation, 301 S. Flower St., Burbank, Calif. 91503
Sprinkler heads for lawn & turf irrigation
Shower bath head — the only rotary massage shower head
Ornamental garden fountain — "Shower of Diamonds"

Rain-O-Mat Sprinklers, Inc., 12414 Whittier Blvd., Whittier, Calif. 90608
Sprinkler irrigation equipment

Raven Industries, Box 1107, Sioux Falls, South Dakota 57101
Fiberglass tanks
Rhino polyethylene tanks

Reach-All Manufacturing and Engineering Co., 436 Calvary Road, Duluth, Minnesota 55803
Reach-All, hydraulically operated aerial baskets, truck mounted hydraulic cranes

Rego, 4201 W. Peterson, Chicago, Ill. 60646
Rego, valves (LP and compressed gas)
Rego, regulators (LP and compressed gas)
Rego, oil-less air compressors

Reinco, Inc., P.O. Box 584, Plainfield, New Jersey 07061
Reinco, Inc., hydrograssers, power mulchers

Republic Aviation Corp., Helicopter Div., Farmingdale, Long Island, N.Y. 11735
Aircraft, helicopter

Ridge Plastics Co., Highway 18 East, P.O. Box 2205, Jonesboro, Arkansas 72401
Biaxially oriented HD plastic pipe, sub-irrigation

Robco, Inc., 2800 Bay Road, P.O. Box 5326, Redwood City, Calif. 94063
Robco—Hatsuta, back-pack mist blower, duster
Robco, high pressure piston pumps, 4 GPM to 28 GPM; Hand sprayers and hand dusters; High pressure vinyl spray hose

Rockwell International, 5001 North Rockwell Ave., Bethany, Oklahoma 73008
Rockwell Thrush Commander, agricultural aircraft, fixed wing

Rogers Bros., 100 Orchard St., Albion, Pa. 16401
Trailers

Roof Mfg., 1011 W. Howard St., Pontiac, Ill. 61764
Ranger, mower, self-propelled, tilt blade for heavy cutting, 5 hp or 7 hp, 24-inch or 26-inch cut
Roof 400, mower, push, blade clutch, 5 hp, 21-inch or 24-inch cut, belt driven blade

Root-Lowell Mfg. Corporation, 1000 Foreman Road, Lowell, Michigan 49331
Durapower, power sprayer: 10 gpm double piston pump @ 400 p.s.i., tanks 100, 200, 300 gallons
Spraycat, power sprayer: 3 gpm single piston pump @ 250 p.s.i., tanks 15, 30, 50 gallons
Duracyl "10", pump: double piston, 10 gpm @ 400 p.s.i.

Roper Corporation, 1905 W. Court St., Kankakee, Ill. 60901
Saws, chain; manual and automatic; dual system chain oiler

Rosco Manufacturing Co., 3118 Snelling Ave., So., Minneapolis, Minn. 55406
Rollpac, steel wheeled roller, lawn, asphalt paths, etc.

Roseman Mower Corporation, 2300 Chestnut Avenue, Glenview, Illinois 60025
Roseman, mowers—gang reel, both mounted and hydraulic driven; tiller rake—landscape tiller rake

Rotary Power, Inc., P.O. Box 244, Centerville, Tennessee 37033
Kurb Kutter, tractor mounted curb edger for grass
Hydrajust tractor seat, self leveling tractor seat

Roto-Hoe Co., Newberry, Ohio 44065
Cut 'N Shred, shredder, 3½ hp, interchangeable with tiller

Rowco Mfg. Co., Inc., 48 Emerald St., Keene, N.H. 03431
Brushking®, brushcutter, engine driven

Royer Foundry & Machine Co., 158 Pringle St., Kingston, Pa. 18704
Royer Shredders, Models 362, 262, 180, 120, 12, 10, and 8
Power Screens, Models 30 and 42
Royer Chipper, Model 2600 PTO & 2640 self-powered

Ryan, OMC-Lincoln, P.O. Box 82409, Lincoln, Nebraska 68512
Ryan turf equipment, full line of turf aerators, spikers, renovators

Joseph T. Ryerson & Son, Inc., P.O. Box 8000-A, Chicago, Ill. 60680
Landscape Edging, steel

S

S & H Industries, Inc., Cleveland, Ohio
Tailgates, lifting

Sabre Saw Chain, Inc., Third Ave. and Sabre Drive, Niagara Falls, N.Y. 14304
Sabre, saw chain, guide bars, sprockets, wedges, files, accessories

Safeline Products, P.O. Box 550, Putnam, Conn. 06260
Respirators (all types), lung protection
Safety Glasses and goggles, eye and face protection
Hearing protectors, muff-type and ear plugs
Hard hats and caps, plastic safety hats and caps

Safe-T-Lawn, Inc., 7800 N.W. 32nd St., Miami, Florida 33122
Safe-T-Rain, rotor pop-up (ball drive)
Safe-T-Rain, valve inhead type
Rise-N-Rain, impact type pop-up
GL-67, 2" pop-up spray type
GL-71, 6" pop-up spray type

Safety Test & Equipment Co., Inc., P.O. Drawer 400, Shelby, North Carolina 28150
Wood/Chuck, manufacturer of Wood/Chipper capable of chipping logs up to 8" in diameter
Safety Test, manufacturer of complete line of tree trimming and linemen's equipment

Satoh Tractor c/o NEDA, P.O. Box 5025, Richmond, Va. 23220
S-650G, tractor, utility, 25 hp; water-cooled, 4-cylinder engine, category I—3-point linkage; 2-speed PTO, 540 and 1,000 rpm
S-550G, tractor, utility, 17 hp; water-cooled, 4-cylinder engine, Category I—3-point linkage; 540 PTO

Schutt's Equipment Co., P.O. Box 412, Birmingham, Mich. 48012
Schutt's Marvel Tree Diggers, front loader models from 18" to 60" ball sizes; Back hoe models from 18" to 36" ball sizes
Schutt's Root Pruners, 3-point hitch models from 16" to 22" ball sizes

Schwartz Mfg. Co., Box 248, Lester Prairie, Minn. 55354
Trailers, fifth wheel, Lo-Boy w/fold down rear section
Platforms, truck, hydraulic tilt bed
Crane, hydraulic, truck mtd.
Loaders, tractor, front end

Scott Aviation, Plant 4, 1201 Kalamazoo St., South Haven, Michigan 49090
Scott Duo-Seal Respirators, respirators
Full vision gas masks, gas masks

M. J. Scott, Co., 721 W. 2nd, Hutchinson, Kansas 67501
Grasshopper, rotary riding mower

Selma Trailer & Mfg. Co., P.O. Box 120, Selma, Calif. 93662
Aerial buckets—articulated boom lifts 20 to 55 feet from ground; telescoping bucket from 20 to 55 feet

Seymour Smith & Son, Inc., 900 Main St., Oakville, Conn. 06779
Garden tools, pruning shears, grass shears, hedge shears, lopping shears, tree pruners, pruning saws

Sikorsky Aviation Div., United Aircraft Corp., Stratford, Connecticut 06497
Aircraft, helicopter

Simplex Mfg. Co., 5224 N.E. 42nd Ave., Portland, Oregon 97218
Greenhouses

Simplicity Mfg. Co., 500 N. Spring St., Port Washington, Wisc. 53074
Lawn and garden tractors with wide range of hp tillers, turf rollers, mowers, rotary, reel, gang, sicklebar

Skaggs Turf Equip. Co.
Rakes, all purpose

Skil Corporation, 5033 Elston Ave., Chicago, Ill. 60630
Skilsaw, chain saws

R. & G. Sloane Mfg. Co., 7606 N. Clybourne Ave., Sun Valley, Calif. 91352
GSR Color Guard, PVC fittings for pipelines, sizes include ¾-inch through 2 inches class 315 and 2½ inches through 8 inches; class 200, press rated

Slope Tractor, Inc., 106 W. 9th Ave., Harper, Kansas 67058
Slope Runner, tractor mower, rotary flail or sickle, adjustable angle hydraulic lever control adjusts wheels and tractor chassis to remain in level attitude on a slope

Smith & Co., Inc., D.B., 414 Main St., Utica, N.Y. 13503
Sprayers, complete power unit

Smith Precision Products Co., 1299 Lawrence Dr., Newbury Park, Calif. 91320
Measure-Mix, measures precise mixture of fertilizer to water when watering shrubs, lawns, etc.

Smithco, Inc., 11 West Ave., Wayne, Pa. 19087
Red Rider, 3-wheel turf vehicle
Top Rider, top dresser
Little Beaver Spiker, spiker
Easy Rider III, sand trap rake
Lark, 110-gallon fiberglass sprayer
Hawk 200, 200-gallon fiberglass sprayer w/Golden Eagle pump
Hawk 300, 300-gallon fiberglass sprayer w/Golden Eagle pump
Cardinal, 200-gallon stainless steel sprayer w/Golden Eagle pump
Little Red, 6½ hp 3-wheel turf vehicle

The Snow Company, 4350 McKinley, Omaha, Nebraska 68112
Snowco, utility trailer, Power-Kart, umbrella/buggy top, Nomad/Tri-Scat/Super-Scat

Soilmoisture Equipment Corp., P.O. Box 30025, Santa Barbara, Calif. 93105
Jet Fill Tensiometer No. 2725, moisture measuring equipment for irrigation control, semi-permanent installation, sizes 6" through 60"
Quick Draw Tensiometer No. 2900, Moisture measuring equipment for irrigation control, portable, sizes 12" through 18"
Turf Probe No. 2950, double action tensiometer measuring moisture at 2" and 5", portable
Soilmoisture Tensiometer No. 2710, moisturing measuring equipment for irrigation control, semi-permanent installation, sizes 6" through 60"
Soil Water Sampler No. 1900, Obtains soil water for laboratory analysis and leaching determinations, permanent installation, sizes 6", 11", 24", 36", and 48"
Soil Sampling System No. 215, "Veihmeyer/King" soil sampling probes, sizes 4' through 16'
Soil Auger No. 230, auger equipment for strata identification, core sizes of 2", 3", 3½", and 4"
Salinity Sensors & Bridge No. 5500, salinity sensing equipment for field use, portable
Plant water status console No. 3000, portable plant moisture stress indicator

Solo Motors, Inc., P.O. Box 5030, 5100 Chestnut Ave., Newport News, Virginia 23605
Sprayer, Model 425 hand operated
Mistblower, Model 410 3 hp, Model 423 5 hp
Tractor Sprayer, 10 hp, Model 424 self-propelled; 18 hp, Model 450 self-propelled; Model 451 PTO mounted; Model 452 PTO mounted; 10 hp, Model 419 super custom mounted
Newport, blower Model 430 5 hp, mini Model 410 3 hp
Chain Saw, Model 610 3 SAE hp, Model 620 4 SAE hp, Model 650 6 SAE hp, Model 635 8 SAE hp, Model 660 7 SAE hp
Mower, sickle bar, 6.5 SAE hp, Model 520
Water Pump, 6.5 SAE hp, Model 801
Garden Tractor, Model 527 tiller 6.5 hp
Post Hole Digger, Model 812, 6.5 hp
Snow Blower, Model 813, 6.5 hp
Generator, Model 819, 110 volt
Engine, Model 272, 6.5 hp

Speedex Tractor Co., 367 N. Freedom St., Ravenna, Ohio 44266
Lawn & garden tractor, 8hp, 10hp, 13hp
Rotary mowers 36", 44", 50"

Spray Baby, Inc., 751 N. Edmonds Dr., Carson City, Nev. 89701
Seeders, hydraulic
Mulchers, hydraulic
Agricultural sprayers

Spraying Systems Co., North Avenue at Schmale Road, Wheaton, Illinois 60187
TeeJet, spray nozzles with interchangeable spray tips
Foam Jet, spray nozzles with interchangeable spray tips
Vee Jet, spray nozzles
GunJet, spray guns
FloodJet, spray nozzles

Sprinkler Irrigation Supply Co., Div. A. J. Miller, Inc., 1316 Campbell Rd., Royal Oak, Michigan 48067
Pipe, irrigation
Irrigation systems, complete
Sprinklers

Standard Mfg. Co., 220—E. 4th St., Cedar Falls, Iowa 50613
Standard, golf course equipment

Stanley Hydraulic Tools, Div. of the Stanley Works, 13770 S.E. Ambler Road, Clackamas, Oregon 97015
Pruners, hydraulic
Pole pruning saws, chain & circle hydraulic
Chain saws, hydraulic
Alternator, hydraulic
Sump pump, hydraulic

Stihl American, Inc., 107 Bauer Dr., Oakland, N.J. 07436
Chain Saws, electric and gasoline powered
Stihl SG-17, blower/sprayer, back-pack gasoline powered
Stihl Cutquik, saw, circular cut-off for cement, stone, steel, pipes, etc.
Stihl earth auger and planting tool, gasoline powered
Stihl Brush-Cutter, brush and weed cutter, gasoline powered
Stihl Hedge-Trimmer, hedge trimmer, gasoline powered, trim hedges and small brush/trees

Stone Construction Equipment, Inc., 32 Main, Honeoye, N.Y. 14471
Stone, digger—12 volt, operates off of 12 volt system; 2" to 7" digger dirt augers for digging post holes and holes for trees, shrubs, etc.

Sudbury Laboratory, Inc., 572 Dutton Rd., Sudbury, Mass. 01776
Sudbury Soil Test Kits, designed to make "on-the-spot" tests for nitrogen, phosphorus, potash and acidity/alkalinity; simple to use "as easy as reading a thermometer."

Sun-Mastr Corp., P.O. Box 31, Olathe, Kansas 66061
Safti-Shear, 74" and 90" flail mowers
Sun Mastr, mid-mount mowers; rotary cutters 60"-72"-84"; 60" and 72" rear-mount mowers; 3-gang and 5-gang reel mowers

Swan Hose Div.—Amerace Corp., P.O. Box 509, Worthington, Ohio 43085
Swan, garden hose, Industrial and maintenance hose

Sweepster, 2810 Baker Road, Dexter, Michigan 48130
C-36, self-propelled Walk Behind, 3' wide, 5 hp
C-48, 4' wide front mounted compact tractor broom
B-60, 5' wide front and rear mounted broom for grounds maintenance tractors
TR-48, 4' wide tow behind pick-up sweeper, 5 hp
AH, 6' wide 32" diameter front mounted tractor broom, all hydrualic operation, hydraulic swing, run and lift
HF, 6' wide 32" diameter front mounted tractor broom, mechanical drive
R-HF, 6' wide 32" diameter rear mounted on 3-point hitch, mechanical drive
HH-60, 5' wide loader mounted pick-up sweeper (for fork lifts also)
LH, 6' wide 32" diameter loader mounted sweeper
C-72, compact truck mounted broom

Swenson Spreader & Mfg. Co., P.O. Box 127, Lindenwood, Illinois 61049
Spreader, gas, hydraulic
Thatcher, attachment for rotary mowers
Leaf Loader, trailer mounted

T

TCI, Inc., Box 249, Benson, Minn. 56215
Tyler, 2 to 8-ton pull type fertilizer spreaders; 15' to 45' anhydrous ammonia applicators
Herculift, 4-wheel drive rough terrain forklifts
Super Challenger, 4-wheel drive, 1 yard bucket loader

Tallman Equipment Co., Inc., 3825 W. 31st St., Chicago, Illinois 60623
Shears

Tecumseh Products, Co., Engine Div., 900 North St., Grafton, Wis. 53024
Tecumseh Engines, 2 to 18 hp, 4-cycle + 2-cycle, air and liquid cooled, single + twin cylinder
Tecumseh genuine parts
Peerless Gear Drives, transmission, transaxles, hydrostatic gear drives, right angle + T drives
Taylor Mufflers
SnowKing Engines

Teledyne Wisconsin Motor, 1910 South 53rd St., Milwaukee, Wisconsin 53246
Wisconsin, Wisconsin-Robin, Wisconsin-Hatz Diesel, heavy-duty, air-cooled internal combustion engines, 3—80 hp, single, two, three and four-cylinder

Tennant Maintenance Systems, 721 North Lilac Dr., Minneapolis, Minn. 55490
Hydraulic heavy-duty power sweeper for driveways, walks and maintenance areas covered with cement

Terrain King Corp., 4444 Center, Houston, Texas 77007
Terrain King, rotary mowers—4'-25'
Turner, flail mowers—(3-point and boom)
Slopemower, boom type mowers—31' reach

Thomas Equipment, Ltd., Centreville, New Brunswick, Canada
Mower, Sickle, attachment to front end loader

Thompson Manufacturing, 2251 E. 7th St., Los Angeles 90023
Turf Irrigation Sprinkler and Accessories, gear driven rotary turf irrigation sprinklers

Tork Time Controls, Inc., 1 Grove St., Mt. Vernon, N.Y. 10550
Tork, irrigation, automatic lawn sprinkler controls

The Toro Company, 8111 Lyndale Ave., So. Bloomington, Minn. 55420
Hevi-Duty, mower, rotary (hand or self-propelled) 21 inch and 25 inch
Whirlwind, mower, rotary, 31-inch
Trojan, 60-inch cut
Professional, mower, triplex reel, 70-inch, 76-inch and 84-inch cut
Greenmaster, mower, walk greensmower, 21-inch
Greensmaster 3, mower, triplex greensmower, riding
Spartan Gang, mower, 5, 7 or 9 bladed-formal and semi-formal turf
Landscaper 4, multi-purpose landscaping tool for seedbed preparation, seeding, fertilizing, also Model 6 Pro.
Rake-O-Vac, turf and hard surface sweeper
Parkmaster, 5-7-9 unit hydraulic mowing tractor
Roughmaster, 4 and 5 bladed rough area reel mowers
Toro Frames, reel mower transport and lift frames
Toro Turf Tractor, utility turf tractor
Sandpro, sand trap maintenance and grooming unit, all hydraulic
Groundsmaster 72 with 70½-inch cut, riding rotary mower and other implements
Workmaster, utility vehicle
Groundsmaster 50 with 50 inch cut, riding rotary mower and other implements

Toro Irrigation Division, P.O. Box 489, Riverside, Calif. 92502
Automatic Controller, irrigation equipment, hydraulic or electric; 4, 8, 11, 23 station control and satellites
Automatic Remote Control Valves, ¾-inch to 2-inch, hydraulic or electric
Pop Up Spray Sprinklers, 8-54 ft. diameter stream spray
Pop Up Rotary Sprinklers, 65-235 ft. diameter, valve in head, hydraulic or electric, 2-speed, gear driven
Shrub and Bubbler Sprinklers, adjustable, stream, flood, low angle
Boring Machine, 10 ft. and 16 ft. models
Trenching Machines, residential, light commercial, 2 inches wide, 9 inches deep
Quick Coupling Valves, standard, vinyl or with lock cover, valve range ¾-inch to 1½ inches
Impact Sprinklers, ½-inch to 1¼ inches threaded connection, part of full circle

Towner Mfg. Co., P.O. Box 6096, Santa Ana, Calif. 92706
Harrows, disks
Harrows, springtooth
Tool box equipment
Ditchers; slopers

Tradewinds, Inc., P.O. Box 1191, Tacoma, Washington 98401
Holder, tractors, 4-wheel drive, diesel, 14 hp to 40 hp; tractor mounted sprayers, PTO pumps, complete with turbulator mistblowers, (all sizes from 22 gallons up); knapsack power sprayers (for mist, dust, granules, flamethrowers, etc.) world's only packsack sprayer with centrifugal pump

Travelrain Power Sprinkler Co., 239 No. Robertson Blvd.,

Beverly Hills, Calif. 90211
Travelrain Power Sprinkler, (irrigation) traveling sprinkler
Sharpomatic, drill & Tool sharpener (electric)

Tree-ject Company, Box 396, Waycross, Ga. 31501
Sprayers, hose end, complete power unit

Triumph Machinery Co., Willow Grove St., Hackettstown, N.J. 07840
Rakes, landscape
Thatchers, mower, vertical
Mowers, sickle bar; rotary, heavy-duty

Trojan Battery Company, 9440 Ann St., Santa Fe Springs, Calif. 90670
Trojan, storage batteries—electric golf car, automotive, commercial, truck, bus, and industrial chargers

Turf Service Laboratory, Inc., P.O. Box 1001, Laguna Beach, California 92652
Moistureometer Model 50, protable 12" probe electronic measures soil moisture from 1 inch to one foot
Moistureometer Model 20, garden angel portable 6-inch probe designed for measuring moisture in pots
Moistureometer Model 75, one meter probe designed to measure moisture at depths of one meter, 75 CM, 50 CM, and 25 CM permanent installation; meter separate digital read out

Turf Vac Corporation, P.O. Box 4339, Long Beach, Calif. 90804
Turf Vac, self-propelled rider vacuum
Fairway Master, sweepers—18-25 hp with hydraulic drive systems, blower attachments, and hand pick-up hose attachments, and hydraulic lift dump available; towed units 4½' to 10' wide, 10½-25 hp or PTO; hydraulic lift dump and hand intake hoses available

U

Universal Motor Division, Medalist Industries, Box 2508, Oshkosh, Wisconsin 54901
Aquamaster Pumps, portable centrifugal pumps 1½" or 2" suc/disch., 3 hp gas engine or ½, ¾, 1½, 2 hp electric motors, standard seal for water, corrosion resistant seal for fertilizer, herbicides, etc.
Universal electric generators and battery chargers. 1200-3500 watts and 12-32V. Portable

Up-Right Scaffolds, 1013 Pardee St., Berkeley, Calif. 94710
Scaffolds, portable, aluminum for tree trimming

Utility Body Co., 901 Gilmen, Berkeley, Calif. 94710
Buckets—aerial towers

V

Val-Jac Mfg. & Supply Co., Inc., 110 N. Park, Maize, Kansas 67101
Small truck compactor for parks and recreational areas

Valley Products Corporation, Box 668, Valley, Nebr. 68064
VPC Stump Cutter, 8 hp one-man tree stump remover

Vandermolen Corp., 119 Dorsa Ave., Livingston, N.J. 07039
Blower KWH, for leaves and debris, wheeled, 2-cycle engine
KWH Mistblower, back pack
Diadem Brush Chipper, for branches up to 3", wheeled, PTO or skid models, 8 and 12 hp models
Bora KWH Mistblower, skid model, 110-gallon tank, 75-80 ft., reach fan power by rotary engine
Diadem Spreader/Seeder, broadcaster, PTO driven, 3-pt. hitch
Flykil, electric flykiller

Venable Sprinkler Sales, Inc., P.O. Box 1105, 3401 Conflans, Irving, Texas 75061
Pump-A-Matic, pre-built pump station for golf course, etc., irrigation
Pressure-Matic, booster pump unit to increase pressure of water in hydraulic system tubing to use potable water

Veri Products, P.O. Box 5129, Cardwell Station, Fresno, Calif. 93705
Scabbards for chain saws

Vermeer Manufacturing Company, P.O. Box 200, Pella, Iowa 50219
Stump Cutters, 12-65 hp, four models
Tree Spades, 4 models (trailer or mounted)
Log Chippers, 2 models
Log Splitter,

Vicon Farm Machinery, Inc., 5898 Poplar Hall Drive, Norfolk, Virginia 23502
Vicon, mower (disc), power harrow (recoplicatins) fertilizer spreader (pendulum), hay rake, (wheel type)

Viking Pump Co., 4th and Shutte Sts., Cedar Falls, Iowa
Pumps

Village Blacksmith, McGraw Edison Portable Electric Tool Division, 1200 East State St., Geneva, Illinois 60134
Village Blacksmith, garden cutting tools, electric chain saws, electric hedge trimmers, electric edger trimmers, electric cultivator, Cord Reels, "Blitz Fog" insect fogging devices, gas engine fogger, electric tree surgeon, post hole diggers and augers

Vineland Laboratories, Inc., 2285 E. Landis Ave., Vineland, New Jersey 08360
Proportioning systems

Vogel Tool & Die Corp., Stone Park, Illinois
Post hole drill

W

W-W Grinder, 2957 N. Market, Suite 169, Wichita, Kansas 67219
Shredder-Grinders, complete line of soil shredder-grinders for gardeners, nurseries, greenhouses, etc.; horsepowers ranging from 1 hp models to 30 hp models; available with gas engines, electric motors or less power; some models feature electric start gas engines

Waco Industries, Inc., P.O. Box 367, 749 Airways Blvd., Jackson, Tenn. 38301
Chain saws products
Windsor chain, bars, sprockets and accessories

Waldon, Inc., 201 W. Oklahoma Ave., Fairview, Okla. 73737
Tractor, hydraulic, 4-wheel drive, articulating and oscillating type frame plus utility air, may be used as a forklift or loader
Pickup Broom, attachment to Waldon 5000 tractor
Forklift, boom type, attachment to Waldon 5000 tractor
Scrap Grab, attachment, lift capacity 1300 to 1900 lbs.
Backhoe, attachment to Waldon 5000 tractor

Walsh Manufacturing Co., 1200 Fisher Street, Charles City, Iowa 50616
Trailer Model Sprayer, exclusive sump trap, exclusive uni-stand, rear safety stand 200, 300, and 500-gallon cap.; built in nylon agitator
RA Side Mounted Sprayer, 400-gallon capacity; each tank valve controlled, 2-200 gallon tanks, custom fit mounting brackets, valve stand
3-Point Hitch Sprayer, 165, 200, or 300-gallon capacity, Cat. II hitch pins
Fiberglass Tanks (all above units), 10" x 20" fill hole; bullet shaped ends; built in agitators built in steel outlets; 1¼" steel sump outlet; double protection inner lining; lid with snap-over lock; special sump trap and anti-swirl baffle; continuous flow pump; sprays evenly over all terrain;

sprays to last drop
Index-O-Matic Washer, completely portable; semi-pneumatic tires; all-steel frame 5 or 25-gallon tank; 3 GPM pump; 1½ hp motor; fiberglass tank
Tri-Matic II, fiberglass tank; completely portable; all-steel frame 25-gallon tank; 3 GPM pump; 1½" hp motor; semi-pneumatic tires
Dutch Elm disease tree injector applicator, (3) gallon-pressure tank, nozzle injector assemblies, 60 lb. gauge, length of hose, hose shut-off, and driving tool

Waymark, 44 River St., Cortland, N.Y. 13045
Spreaders, disc type
Sprayers, boom; complete power unit

Wayne Engineering Corp., 1st & Iowa Sts., Cedar Falls, Iowa 50613
Honey B, lightweight refuse packer for parks highway rest stops, etc.
Pup, pickup refuse packer

Weather-matic Division/Telsco Industries, P.O. Box 18205, Dallas, Texas 75218
Weather-matic, controls, electric valves, solenoids, rotary heads, spray heads, nozzles, accessories (irrigation equipment)

H. N. Webster Mfg., P.O. Box 1628, Sebring, Florida 33870
Webstermatic, irrigation, quick coupling riser valves sizes ½" to 1¼"

Weed Eaters, Inc., 5146 Richmond Ave., Houston, Texas 77027
Weedy, for commercial use: 3 hp, 2-cycle Tecumseh engine powers patented cutting head which employs "fishing line" to trim, edge and cut grass and weeds along chain link fences, trees, ditches, cemetery markers, culverts, etc. , wt. 28 lbs.
Needie, ¾ hp permanent magnet motor—wt. 6½ lbs.; performs the same tasks as above with less punch

Welsh Mfg. Co., 9 Magnolia St., Providence, R.I. 02909
Respirators, for use in pesticide application
Ammonia respirators
Dust respirators
Goggles
Safety caps
First aid equipment

Western Products, 1234 N. 62nd St., Milwaukee, Wis. 53213
Western Snow Plow, truck mounted snowplow and controls

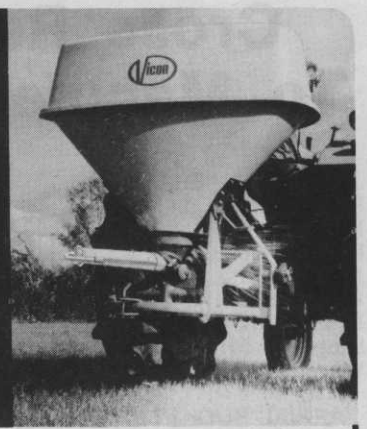
Westinghouse Electric Corp., P.O. Box 712, Redlands, Calif. 92373
Westinghouse, Electric golf cars

Wet Mfg. Co., Inc., 955 Elm St., Orange, Calif. 92667
Sprinkler irrigation equipment
Sprinkler head, gear driven rotary pop-up
Automatic controller, 7, 14, and 21 station
Remote control valve, electric ¾" thru 2" size
Boring tool, used for boring under walks, driveways etc.

Wheel Horse Products,Inc., 515 W. Ireland Rd., South Bend, Indiana 46614
Wheel Horse D-200 Automatic, 19.9 hp twin cylinder tractor; featuring—automatic transmission with "no belt" drive; front and rear 2,000 rpm PTO's; category "O" three point hitch; Super Seat; sealed beam head and taillights; dual hydraulic lifts; independent disc turning brakes; 8-gallon fuel tank; cluster dials; 3-way safety interlock system; and a choice of four tire options
Wheel Horse D-180 Automatic, 18 hp twin cylinder tractor: featuring—automatic transmission with "no belt" drive; sealed beam head and taillights; hydraulic lift; 5¾-gallon fuel tank; cluster dials; two piece adjustable seat; front PTO; optional splined rear PTO; optional category "O" three point hitch; optional disc turning brakes; 3-way safety interlock system; and a choice of four tire options
Wheel Horse D-160 Automatic, 16 hp tractor; featuring—automatic transmission with "no belt" drive; front PTO; polyfoam seat; hydraulic lift; 5¾-gallon fuel tank; ammeter; many options; 3-way safety interlock system; and a choice of four tire options
Wheel Horse C-160 Automatic, 16 hp tractor: featuring—automatic transmission (hydrostatic-oil drive); hydraulic attachment lift; arm rests; 2-piece adjustable seat; spring seat suspension; ammeter; hour meter; 2-gallon fuel tank; unitized steel frame; head and taillights; friction disc PTO clutch; soft feel steering wheel; turf saver tires; and a 3-way safety interlock system
Wheel Horse C-160 8-speed, 16 hp tractor; featuring—heavy-duty all gear 8-speed transmission; two piece adjustable seat; ammeter; 2-gallon fuel tank; unitized steel frame; head and taillights; friction disc attachment clutch; soft feel steering wheel; turf saver tires; optional electric lift; and a 3-way safety interlock system
Wheel Horse C-120 Automatic, 12 hp tractor; featuring—automatic transmission (hydrostatic-oil drive); two-piece adjustable seat; spring seat suspension; ammeter; 2-gallon fuel tank; unitized steel frame; head and taillights; friction disc attachment clutch; soft feel steering wheel; turf saver tires; optional hydraulic lift; and a 3-way safety interlock system
Wheel Horse C-100 8-speed, 10 hp tractor: featuring—heavy-duty all-gear 8-speed transmission; unitized steel frame; head and taillights; friction disc attachment clutch; turf saver tires; optional electric lift; and a 3-way safety interlock system
Wheel Horse B-100 automatic, 10 hp tractor featuring unitized steel frame; friction disc attachment clutch; turf saver tires; optional hydraulic lift; and a 3-way safety interlock system.

Vicon

is the most accurate fertilizer spreader you can use.



Right behind the spreader. . .or 20 feet to each side. . . your turf gets the same amount of fertilizer if you use a Vicon. Field tests have proven it.

Vicon uses an exclusive system. . .a spout oscillating at 540 times per minute. This gives a rectangular coverage pattern that eliminates the overlapping and missed spots you get with fan spreaders.

Vicon is quality constructed to last for years. Major parts are non-corroding polyester and stainless steel. Application rate is easily adjusted from 10 to 2500 pounds per acre.

Even lime is no problem for the Vicon. It handles lime, fertilizer, seed and chemicals. Six hopper capacities from 600 to 7000 pounds suit your course and budget.

Vicon has the accuracy that professional turf men are looking for. Write today.

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Vicon Farm Machinery, Inc.
5898 Poplar Hall Drive • Norfolk, Virginia 23502

Wheel Horse B-80 4-speed, 8 hp tractor featuring unitized steel frame; friction disc attachment clutch; turf saver tires; optional electric attachment lift; and a 3-way safety interlock system
Wheel Horse D-Series Attachments; 60" rear mount mower; 48" side discharge mid-mount mower; 56" snow/dozer blade; 50" grader blade; 50" tiller; 36" aerator; 38" or 31" lawn sweeper; 32" lawn roller; 4-wheel wagon; 2-wheel dump cart; and a 48" snowthrower
Wheel Horse C-Series Attachments, 48" side discharge mower; 42" side discharge mower; 36" side discharge mower; 36" rear discharge mower; 42" snowthrower; 42" snow/dozer blade; 40" grader blade; 36" tiller; 36" aerator; 38" or 31" lawn sweeper; 32" roller; 2-section cultivator; harrow; 32" disc; lawn vacuum; 4-wheel wagon; and a 2-wheel dump cart
Wheel Horse B-Series Attachments, 36" side discharge mower; 36" rear discharge mower; 37" snowthrower; 42" snow/dozer blade; 40" grader blade; 36" aerator; 38" or 31" lawn sweeper; 32" lawn roller; 32" disc; 2-section cultivator; harrow; 36" tiller; 4-wheel wagon; and a 2-wheel dump cart
Wheel Horse A-Series Attachments, for A-80 42" snow blade; 36" aerator; 38" or 31" lawn sweeper; 32" lawn roller; 4-wheel wagon; and a 2-wheel dump cart

Willmar Mfg. Co., Wilmar, Minn.
Spreader, pull-type, floatation tires, spreads up to 1½ tons per load

Willson Products Div., Ray-O-Vac. Co., 2nd and Washington Aves., Reading, Pa.
Masks, gas; dust
Respirators
Safety Equipment
Helmets

Wisconsin Marine, Inc., P.O. Box 28, Lake Mills, Wisconsin 53551
Bob-Cat, model 520-1, snow thrower, self-prop. 5 hp 20" 2-speed
Bob-Cat, model 520-2 snow thrower, self-prop., 5 hp 20" single speed
Bob-Cat, model 724-1 snow thrower, self-prop., 7 hp 24" 2 speed
Bob-Cat, model 724-2 snowthrower, self-prop., 7 hp 24" 2 speed
Bob-Cat, model 828-2 snow thrower, self-prop., 8 hp, 28"
Bob-Cat, model t-16-61, riding twin hydro mower, 16 hp 61 inches
Bob-Cat, model M-21 rotary lawn mower, 21 inch, engine options: 3.5 hp, 4 hp, 4 heavy duty, 5 H.D.
Bob-Cat, model M12-3.5 lawn trimmer, 12 inch, 3.5 hp

Wood Brothers, Inc., Hwy. 2 So., Oregon, Ill. 61061
RM 59, rear mounted rotary lawn mower; three blades cut a 5-foot swath; adapts to any standard 3-point hitch

Y

Yardman, The Leisure Group, Inc., Jackson, Michigan
Snow throwers, tractors, 8-20 hp

Yazoo Mfg. Co., 3607 Livingston Rd., Jackson, Miss. 39216
Yazoo Master Mowers, rotary 20"-76"; walking, riding tillers, edgers

Year-A-Round Cab Corp. (Jari Div.), P.O. Box 2075, Mankato, Minnesota 56001
Jari Chief, 3 hp, 32" sickle
Jari Monarch, 4 hp, 36" sickle

York Modern Corporation, Mill and Watson St., Unadilla, N.Y. 13849
York, rakes; landscape and lawn grooming

Cross Reference Guide To Manufacturers by Items

AERATORS
Brinly Hardy Co.
Hahn Inc.
Howard Rotavator Co., Inc.
Jacobsen Mfg. Co.
F. D. Kees Mfg. Co.
Ryan, OMC-Lincoln
Simplicity Mfg. Co., Inc.
Wheel-Horse Products

AERIAL BUCKET ACCESSORIES
Plastic Techniques,Inc.

AERIAL BUCKET LIFTS
Asplundh Chipper Co.
Baker Equipment Mfg. Co.
Correct Mfg.
McCabe-Powers Body Co.
Mobile Aerial Towers, Inc.
Pitman Mfg. Co., Div. A. B. Chance Co.
Reach-All Manufacturing and Engineering Co.
Selma Trailer & Mfg. Co.

AERIAL LADDERS
Adventure Line Mfg. Co.
Up-Right Scaffolds

AERIAL PLATFORMS
Adventure Line Mfg. Co.
Baker Equipment Mfg. Co.
H. D. Hudson Mfg. Co.
Lift-Quik Mfg. Co. (golf car lift)
Up-Right Scaffolds
Utility Body Co.

AIR COMPRESSORS
Rego Div., Golconda Corp.

AIRCRAFT, FIXED WING
Grumman Aircraft Corp.
Piper Aircraft
Rockwell International

AIRCRAFT, HELICOPTER
Bell Helicopter Co.
Republic Aviation Corp.
Sikorsky Aviation Div.

ALTERNATORS
Friend Mfg. Co.
Stanley Hydraulic Tools, Div. The Stanley Works

AMPHIBIOUS EQUIPMENT
Quality Marsh International

AQUATIC WEED HARVESTER
A. O. A. Research & Development, Inc.
Air-Lec Industries, Inc.
Aquamarine Corp.
Mud Cat Div. Of National Car Rental
Weed Eaters, Inc.

ARBORIST SUPPLIES
American Arborist Supplies
Bartlett Mfg. Company
Creative Sales, Inc.
Hortiscape, Inc.
Karl Kuemmerling, Inc.
Product Development International
Safety Test & Equipment Co.

AUGERS
Contree Sales, Inc.
Ferti-Feeder
Hoffco, Inc.
Johnson's Industrial Supply Co.
Pitman Mfg. Co.
Village Blacksmith

AUGERS, EARTH
Allis-Chalmers Mfg. Co.
Baker Equipment Engineering Co.
Bartlett Mfg. Co.
Johnson's Industrial Supply Co.

AUXILIARY POWER UNITS
(See Generators)

BACKHOES
Allis-Chalmers
Arps Corp.
Charles Machine Works
Ford Tractor Operations, North America
Howard Rotavator Co., Inc.
International Harvester Co.
Massey-Ferguson, Inc. (Industrial Products)
Schutt's Equipment Co.
Vermeer Mfg. Co.
Waldon, Inc.

BAGS
B. A. G. Corporation
Bemis Company

BATTERIES
The Prestolite Co.

BATTERY CLAMPS
Dadco

BATTERIES, STORAGE
ESB Brands, Inc.
Trojan Battery Company

BATTERY CHARGERS
ESB Brands, Inc.
Onan Division of Onan Corp.
Universal Motor Div. Medalist Ind.

BINS, PORTABLE
Royer Foundry & Machine Co.

BLADES, DOZER-SCRAPER (Also See Leveler)
Allis-Chalmers
Arps Corporation
Austin Products, Inc.
BMB Company, Inc.
Brillion Iron Works, Inc.
J. I. Case
Deere & Co.
DriAll, Inc.
Eversman Mfg. Co.
Ford Tractor Operations, North America
Gravely, Div. Clarke-Gravely
Hesston Corp., Lawn Equipment Div.
International Harvester Co.
Johnson Hydraulic Equip. Co., Div. Arps Corp.
Massey-Ferguson, Inc.
Melroe Mfg. Co.
Simplicity Mfg. Co., Inc.
Walden, Inc.
Western Products
Wheel-Horse Products, Inc.

BLOWERS
Billy Goat
Conaway, Inc.
Echo Chain Saw Div., Kioritz Corp. of America
Giant-Vac Mfg., Inc.
Hesston Corp., Lawn Equipment Div.
Mid-State Metal Casters & Mfg. Co.
Papec Machine Co.
Parker Sweeper Company
Robco, Inc.
Solo Motors, Inc.
Vandermolen Corp.

BOOM DYE MAKER
Contree Sales, Inc.

BORING UNIT
Charles Machine Works, Inc.
Toro Irrigation Division
Wet Mfg. Co.

BRIDGES, PORTABLE
Standard Mfg. Co.

BROOMS (See Sweeper/Vacuums)
Clarke Div., Clarke-Gravely Corp.
FMC Corp., Sweeper Division
Parker Sweeper Company
Sweepster, Jenkins Equipment Co.
Waldon, Inc.

BRUSH CUTTERS
Asplundh Chipper Co.
Bombardier Ltd.
E. L. Caldwell & Sons, Inc.
Conaway, Inc.
Deere & Co.
Echo Chain Saw Div., Kioritz Corp. of America
Friend Mfg. Corp.
Hoffco, Inc.
International Harvester Co.
McCulloch Corp.
National Hydro-Ax Inc.
H. K. Porter, Inc.
Rowco Mfg. Co., Inc.
Stihl American, Inc.
The Vandermolen Co.

BRUSH HOOKS
Asplundh Chipper Co.
Bartlett Mfg. Co.
Pitman Mfg. Co.

BUILDINGS (GOLF)
Game Time, Inc.

CARTS, SOIL TREATING
Lindig Mfg. Corp.

CHAIN, DECORATIVE
Ginther Equipment Corp.
Plasti-Chain Corporation

CHAIN SAWS (See Saws, Chain))

CHEMICAL APPLICATOR, DRIP
Lakes Supply Co., Inc.

CHEMICAL APPLICATORS, GRANULAR
American Arborist Supplies
Asplundh Tree Expert Co.
Avco Ezee Flow
John Blue Co.
Buffalo Turbine Ag. Equip. Co.
Contree Sales, Inc.
Echo Chain Saw Div., Kioritz Corp. of America
FMC Corp., Ag. Machinery Div.
Friend Mfg. Corp.
Gandy Co.
Herd Seeder Company, Inc.
Lakes Supply Co., Inc.
Larson Machine, Inc.
Lawn Medic, Inc.
Lely Corp.
Public Health Equip. & Supply Co.
Solo Motors, Inc.
Walsh Manufacturing Co.
Waymark

CHEMICAL APPLICATORS, LIQUID
Amchem Products, Inc.
Asplundh Chipper Co.
Avco Ezee Flow Div.
John Blue Co.
The Broyhill Co.
Buffalo Turbine Ag. Equip. Co.
Century Engineering Corp.
Contree Sales, Inc.
Deere & Co.
Echo Chain Saw Div., Kioritz Corp. of America
Red Ewald, Inc.
FMC Corp., Ag. Machinery Div.
Friend Mfg. Corp.
Great Lakes Chemical Div.
H. D. Hudson Mfg. Co.
Lakes Supply Co., Inc.
Larson Machine, Inc.
Leigh Products, Inc.
Melnor Industries, Inc.

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controlled positively
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F. E. Myers & Bro. Co.
Root-Lowell Corp.
Solo Motors, Inc.
The Vandermolen Co.
Walsh Manufacturing Co.
Waymark

CHESTS, TOOL
Hemco Corporation
Knaack Mfg. Co.

CHIPPERS (Also See Shredders)
American Arborist Supplies
Asplundh Chipper Co.
Billy Goat
FMC Corp., Sweeper Div.
F. D. Kees Mfg. Co.
Karl Kuemmerling, Inc.
Lindig Manufacturing Corp.
M-B Company
Metro-Chipper, Vestar Div., Morbark Ind.
Mitts & Merrill Inc.
Morbark Industries, Inc.
Olathe Mfg., Inc.
Piqua Engineering Inc.
Precision Chipper Corporation
Royer Foundry & Machine Co.
Safety Test & Equipment Co.
Vandermolen Corp.
Vermeer Manufacturing Co.

COMBS, TURF
Blue Bird International, Inc.
Johnson Hydraulic Equip. Co., Div. Arps Corp.
Parker Sweeper Co.
Ryan, OMC-Lincoln

COMPACTORS
B.A.G. Corporation
Gotham Chicago Corp.
M-B Company
Val-Jac Mfg. & Supply Co., Inc.
Wayne Engineering Corp.

CONTAINERS
Eagle Mfg. Co.
Fruend Can Co.

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The economical nitrogen that feeds for months because it has different release rates . . . like time-release cold capsules.

HERCULES INCORPORATED

Turf and Horticultural Products, Synthetics Dept.
Wilmington, Delaware 19899

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CRANES
Adventure Line Mfg. Co.
Baker Equipment Mfg. Co.
Blue Bird International, Inc.
Cascade Corporation
Dico Co., Inc.
Ideal Crane Div., Bert Parkhurst
Pitman Mfg. Co.
Reach-All Manufacturing & Engineering Co.
Rental Equip. Mfg. Co.
Schwartz Mfg. Co.

DISCS, CULTIVATING
Allis-Chalmers Mfg. Co.
Deere & Co.
Engineering Products Co.
Ford Motor Co., Tractor Div.
International Harvester Co.
Massey-Ferguson, Inc.
Wheel-Horse Products, Inc.

DRAINAGE TUBING
ADS-Advanced Drainage Systems
Amoco Chemicals Corp.
Certain-Teed Daymond Co.
Hancor, Inc.

DRILLS (FIELD) (Also See Earth Augers & Post Hole Diggers)
Deere & Co.
Gandy Co.
Ground Hog, Inc.
Hoffco, Inc.
International Harvester Co.
Massey-Ferguson, Inc.
McCulloch Corp.

DRILLS (HAND & POWER TOOL)
Bartlett Mfg. Co.
Black & Decker Mfg. Co.
Fairmont Hydraulics
Hoffco, Inc.
Limb-Lopper Co., Inc.
Skil Corp.
Solo Motors, Inc.

DUMP CARTS
J. I. Case Co., Outdoor Power Equipment Div.

DUSTERS, HAND
Leigh Products, Inc.
Public Health Equip. & Supply Co.
Robco, Inc.

DUSTERS, POWER
John Blue Co., Inc.
Buffalo Turbine Ag. Equip. Co.
Curtis Dyna Products Corporation
Echo Chain Saw Div., Kioritz Corp. of America
FMC Corp., Ag. Machinery Div.
H. D. Hudson Mfg. Co.
Leigh Products, Inc.
Robco, Inc.
Root-Lowell Corp.
Solo Motors, Inc.
The Vandermolen Co.

EARTH AUGERS (Also See Post Hole Diggers)
Ground Hog, Inc.
Hoffco, Inc.
Johnson's Industrial Supply Co.
McCulloch Corp.
Stihl American
Stone Construction Equipment Inc.

EDGERS
Black & Decker
Cooper Mfg. Co.
Gandy Company
Jacobsen Mfg. Co.
K-D Manufacturing Co.
Rotary Power, Inc.
Ryan, OMC-Lincoln
Village Blacksmith
Yazoo Mfg. Co.

EDGING, LAWN
Hortiscape, Inc.
Rotary Power, Inc.
Joseph T. Ryerson & Son, Inc.

ENGINES, DIESEL
Teledyne Wisconsin Motor

ENGINES, GASOLINE
Briggs & Stratton Corp.
Clinton Engines Corporation
Kohler Company
Onan Div. of Onan Corp.
Solo Motors, Inc.
Tecumseh Products Co., Engine Div.
Teledyne Wisconsin Motor

ENGINE STAND
Blue Bird International, Inc.

EROSION CONTROL MATERIALS
American Excelsior Corp.
Conwed Corporation
Grass Growers, Inc.

FERTILIZER APPLICATORS
Gandy Company

FERTILIZER INJECTION EQUIPMENT (Also See Injection Equipment)
Agresults, Inc.
Andrasko Engineering Co.

FITTINGS, PIPE
Melnor Industries, Turf Div.
Plastiline Inc.
R. & G. Sloane Mfg. Co.

FLAMETHROWERS (SPRAYERS)
R. E. Chapin Mfg. Works, Inc.
Echo Chain Saw Div., Kioritz Corp. of America
FMC Corp., Ag. Machinery Div.
H. D. Hudson Mfg. Co.
Leigh Products, Inc.
Public Health Equip. & Supply Co.
Solo Motors, Inc.
Tree-Ject Co.
The Vandermolen Co.

FOGGERS
Curtis Dyna Products Corp.
Echo Chain Saw Div., Kioritz Corp. of America
London Fog Company
Leigh Products, Inc.
Public Health Equip. & Supply Co.
The Vandermolen Co.
Village Blacksmith

FORK LIFTS
Allis-Chalmers Mfg. Co.
Badger-Dynamics, Inc.
Brouwer Turf Equip. Ltd.
Clark Equipment Co.
International Harvester Co.
Massey-Ferguson, Inc. (Industrial Products)
Otis Materials Handling
TCI, Inc.
Waldon, Inc.

FORK LIFT (ATTACHMENT)
Century Engineering Corp.
Harvestall Industries, Inc.
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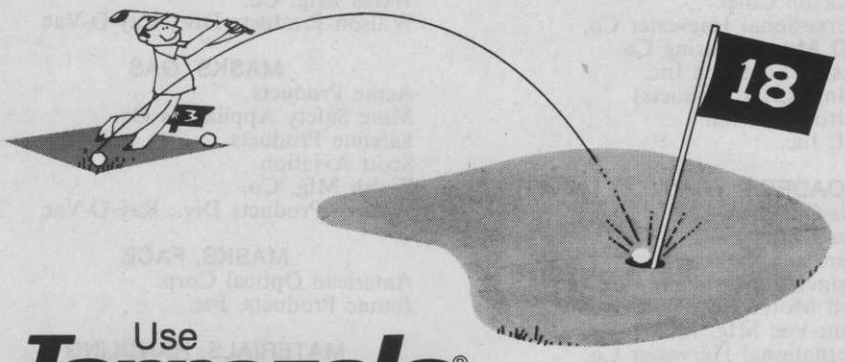

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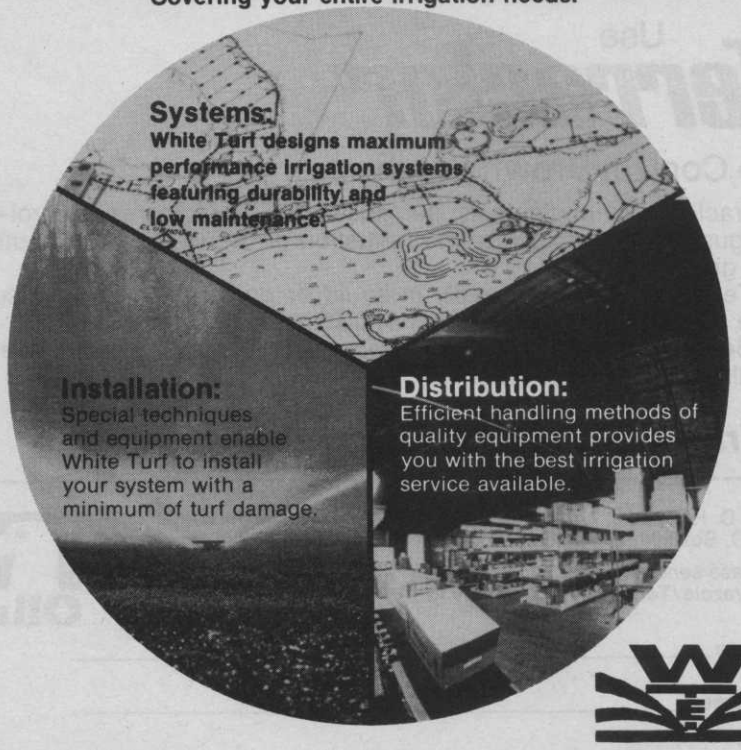
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Turf and Horticultural Products, Synthetics Dept. Wilmington, Delaware 19899

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For More Details Circle (140) on Reply Card

PUMPS
(Also See Sprayers, Complete Power Unit)

Ace Pump Corp.
Aurora Pump
Berkley Pump Company
John Blue Co.
Bowie Industries, Inc.
The Broyhill Co.
Century Engineering Corp.
Contree Sales, Inc.
Delavan Manufacturing Corp.
Energy Mfg. Co.
FMC Corp., Ag. Machinery Div.
Friend Manufacturing Corp.
H. D. Hudson Mfg. Co.
Hydraulic Products Co., Inc.
Hydro Turf
Hypro, Inc.
ITT Marlow
Larson Machine, Inc.
F. E. Myers & Bro. Co.
Oberdorfer Pump Div.
Robco, Inc.
Root-Lowell Corp.
Solo Motors, Inc.
Universal Motor Co.
Venable Sprinkler Sales, Inc.
Viking Pump Company

PUMPS, CENTRIFUGAL

Ace Pump Corp.
Aurora Pump
Berkley Pump Company
L. L. Larson Machine, Inc.
Oberdorfer Foundries Inc., Agri. Pump Div.
Universal Motor Div., Medalist Ind.

PUMPS, DIAPHRAGM

Ace Pump Corp.

PUMPS, PISTON

L. L. Larson Machine, Inc.
Robco, Inc.

PUMPS, ROLLER

L. L. Larson Machine, Inc.

Lakeshore bags it!

NITROFORM*
organic nitrogen

HERCULES INCORPORATED

The slow-release nitrogen that helps turf keep its good looks without repeated fertilizing. Use it to save labor.

Turf and Horticultural Products, Synthetics Dept.
Wilmington, Delaware 19899

* Registered trademark of Hercules Incorporated. STH74-9

For More Details Circle (141) on Reply Card

PUMPS, SUBMERSIBLE

Hydraulic Products Co., Inc.
ITT Marlow
Stanley Hydraulic Tools, Div. The Stanley Works

PUMPS, TURBINE

Aurora Pump
Hydraulic Products Co., Inc.

RAKES, LANDSCAPING

Arps Corporation
Austin Products, Inc.
Brillion Iron Works, Inc.
Deere and Co.
E-Z Rake, Inc.
Ford Motor Co.
International Harvester Co.
Roseman Mower Corporation
Triumph Machinery Co.
York Modern Corp.

RAKES, ALL PURPOSE

Arps Corp.
Asplundh Chipper Co.
Austin Products, Inc.
Bartlett Mfg. Co.
BlueBird International, Inc.
Brillion Iron Works, Inc.
Coursigns, Inc.
Deere and Co.
Ford Motor Co., Tractor Div.
International Harvester Co.
F. D. Kees Mfg. Co.
Lely Corp.
Roseman Mower Co.
Ryan, OMC-Lincoln
Skaggs Turf Equipment Co.
Smithco, Inc.
The Toro Company
Vicon Farm Machinery, Inc.
Year-A-Round Cab Corp., Jari Div.
York Modern Corp.

REELS, HOSE

American Hose & Reel Co.
FMC Corp., Ag. Machinery Div.
Friend Mfg. Corp.
Clifford B. Hannay & Son, Inc.
H. D. Hudson Mfg. Co.
F. E. Myers & Bro. Co.

RESPIRATORS

Acme Products
American Optical Co.
Friend Mfg. Co.
Glendale Optical Co., Inc.
Martindale Electric Co.
Mine Safety Appliances Co.
Safeline Products
Scott Aviation
The Vandermolen Co.
Welsh Mfg. Co.
Willson Products Div., Ray-O-Vac

ROCK PICKERS
(Also See Stone Pickers)

Armor Metal Products
William Bergman Company
Bridgeport Imple. Works, Inc.

ROLLERS, TURF

Brillion Iron Works, Inc.
Erie Go Mfg., Inc.
Ford Motor Co., Tractor Div.
Hadfield Sod Roller Co.
International Harvester Co.
Lakes Supply Co., Inc.
Rosco Manufacturing Co.
Ryan, OMC-Lincoln
Simplicity Mfg. Co.
Wheel-Horse Products

ROOT-FEEDING RODS

Ross Daniels, Inc.
H. D. Hudson Mfg. Co.
Hydroponic Chemical Co., Inc.

ROOT PRUNERS

Schutt's Equipment Co.

SAFETY BELTS AND SADDLES, TREE CLIMBERS

American Arborist Supplies
Asplundh Chipper Co.
Bartlett Mfg. Co.
Karl Kuemmerling, Inc.
Mine Safety Appliances Co.
Product Development International

SAFETY EQUIPMENT

American Optical Co.
Asplundh Chipper Co.
Bartlett Mfg. Co.
FMC Corp., Ag. Machinery Div.
Friend Mfg. Corp.
General Scientific Equip. Co.
Glendale Optical Co.
Jomac Products, Inc.
Karl Kuemmerling, Inc.
Martindale Electric Co.
Mine Safety Appliances Co.
Product Development International
Safeline Products
Scott Aviation
The Vandermolen Co.
Welsh Mfg. Co.
Willson Products Div., Ray-O-Vac

SAWS, MANUAL

Bartlett Mfg. Co.
Corona Clipper Co.
The Fanno Saw Works
Friend Mfg. Corp.
Karl Kuemmerling, Inc.
Seymour Smith & Son, Inc.

SAWS, CHAIN, ELECTRIC

Beaird-Poulan Div., Emerson Electric Co.
Campbell-Hausfeld Co.
Conaway, Inc.
DESA Industries, Inc.
Stihl American, Inc.
Village Blacksmith

SAWS, CHAIN, GASOLINE

Allis-Chalmers Corp., Outdoor and Leisure Products
Beaird-Poulan Div., Emerson Electric Co.
Campbell-Hausfeld Co.
Conaway, Inc.
Deere & Co.
DESA Industries, Inc.
Echo Chain Saw Div., Kioritz Corp. of America
Ford Tractor Operations, North America
Friend Mfg. Corp.
Hoffco, Inc.
Homelite
Husqvarna, Inc.
Jobu Chain Saws
Landcaster Pump & Mfg. Co., Inc.
Lombard Power Equipment
McCulloch Corp.
Omark Industries, Inc., Oregon Saw Chain Div.
Partner Industries of America
Pioneer, OMC-Lincoln
Quadra Mfg. Ltd.
Roper Corporation
Skil Corporation
Solo Motors, Inc.

New Davis Fleetline® 10+2

A low-cost trencher with Davis quality that's easy to move on the job and that trenches by itself without manhandling!

The new Fleetline 10+2 is the first new design in a compact 2-wheel drive trencher in over a decade! It gives you superior quality that you've come to expect from Davis. Its 10 hp Kohler air-cooled engine is forward so its weight keeps the digging boom in the ground—even in tough digging! No manhandling. The four-speed transaxle delivers equal torque to both wheels for straight trenches, and lets you select just the right digging speed for the soil conditions. The rigid guide wheel gives you superior control, so once the course is set, the incomparable Fleetline 10+2 digs by itself—no jostling you around! Controls are grouped together at the rear so you needn't roam around the machine to take command. It digs from 4″ wide, 36″ deep to 8″ wide, 24″ deep at speeds up to 10 fpm. It's narrow enough to go through standard yard gates, so it's perfect for work in congested areas, low-cost house drops, and utility lines. Notice how easy it tracks in transport. That's because the differential axle lets you steer without unlocking a hub! So see your Davis trencher dealer or write Davis Manufacturing for a little relief on your small trenching jobs!

DAVIS COUNTRY
NO.1 IN THE UNDERGROUND

FL10-2-574

Davis Manufacturing
Division of J I Case
A Tenneco Company
P.O. Box 1801
Wichita, Kansas 67201

TENNECO

The Fleetline 10+2 slips through yard gates to work in congested areas.

Low profile lets you see the trench, boom and auger from the rear, where you have total command of the machine.

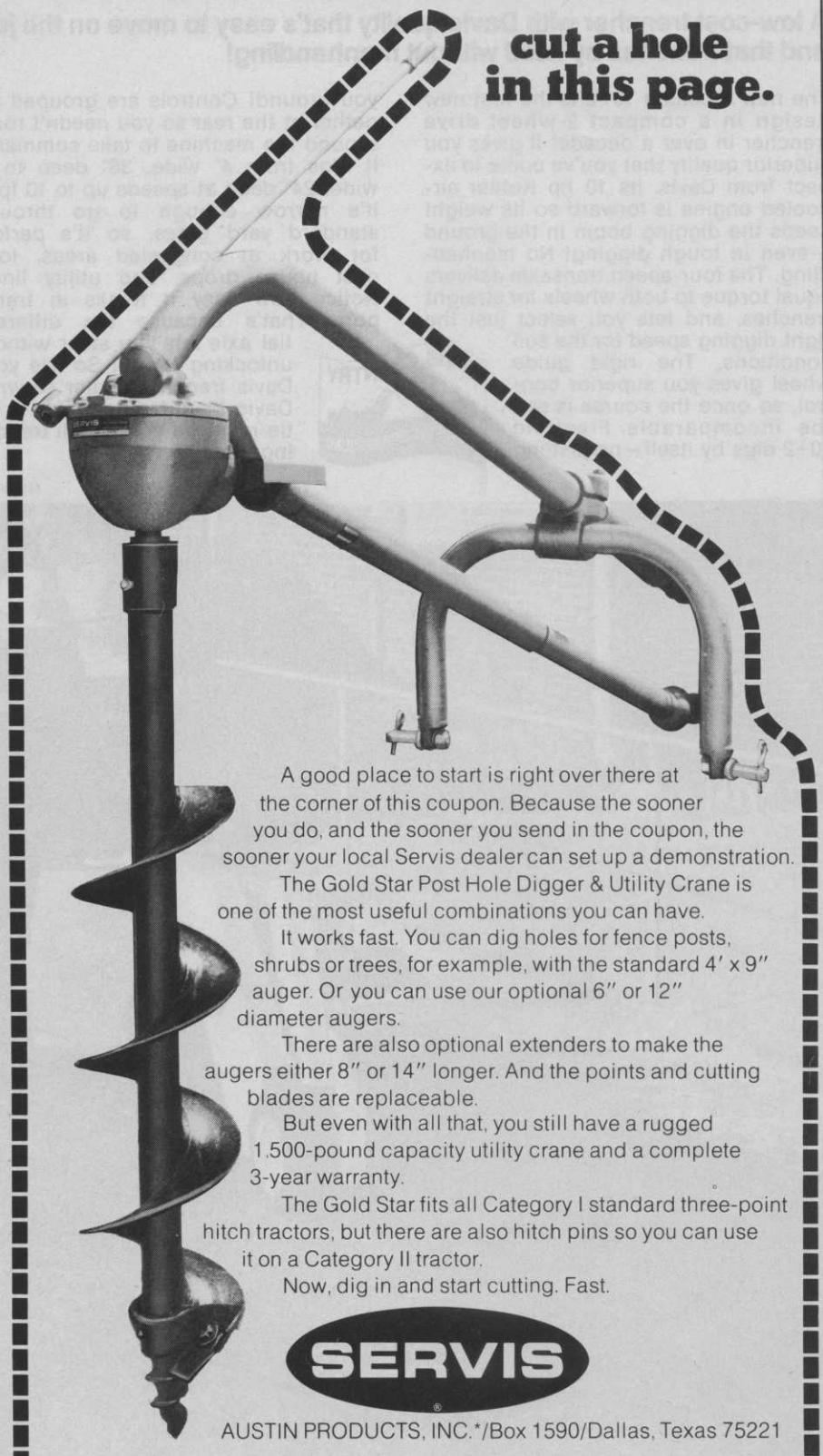
doing something about it.™

DAVIS®

For More Details Circle (127) on Reply Card

To find out how good our Gold Star Digger really is,

cut a hole in this page.



A good place to start is right over there at the corner of this coupon. Because the sooner you do, and the sooner you send in the coupon, the sooner your local Servis dealer can set up a demonstration.

The Gold Star Post Hole Digger & Utility Crane is one of the most useful combinations you can have.

It works fast. You can dig holes for fence posts, shrubs or trees, for example, with the standard 4′ x 9″ auger. Or you can use our optional 6″ or 12″ diameter augers.

There are also optional extenders to make the augers either 8″ or 14″ longer. And the points and cutting blades are replaceable.

But even with all that, you still have a rugged 1,500-pound capacity utility crane and a complete 3-year warranty.

The Gold Star fits all Category I standard three-point hitch tractors, but there are also hitch pins so you can use it on a Category II tractor.

Now, dig in and start cutting. Fast.

SERVIS®

AUSTIN PRODUCTS, INC.*/Box 1590/Dallas, Texas 75221

Name _____ Student? _____

Address _____

City _____ State _____ Zip _____

*Formerly Servis Equipment Company

WT-9

Stihl American, Inc.
Waco Industries, Inc.

SAWS, CHAIN, HYDRAULIC
Fairmont Hydraulics
Friend Mfg. Corp.
Limb Lopper Co., Inc.
Stanley Hydraulic Tools, Div. The Stanley Works

SAWS, CHAIN, PNEUMATIC
DESA Industries, Inc.
Limb-Lopper Co., Inc.

SAWS, CIRCULAR, GASOLINE
Skil Corporation
Stihl American, Inc.

SAWS, CIRCULAR, HYDRAULIC
Fairmont Hydraulics
Limb Lopper Co., Inc.
Stanley Hydraulic Tools, Div. The Stanley Works

SAWS, CIRCULAR, PNEUMATIC
Limb Lopper Co., Inc.
Stanley Hydraulic Tools, Div. The Stanley Works

SAWS, CIRCULAR, ELECTRIC
Allis-Chalmers Corp., Outdoor and Leisure Products
The Black & Decker Mfg. Co.
Friend Mfg. Corp.
Skil Corporation

SAWS, CHAIN, PARTS
Beaird-Poulan Div., Emerson Electric Co.
Campbell-Hausfeld Co.
Grandberg Industries
McCulloch Corporation
Omark Industries, Inc., Oregon Saw Chain Div.
Pioneer, OMC-Lincoln
Sabre Saw Chain
Skil Corporation
Stihl American, Inc.
Waco Industries, Inc.

SAWS, EARTH
Charles Machine Works, Inc.

SCAFFOLDS
Up-Right Scaffolds

SCABBARDS, SAW
Bartlett Mfg. Company
Tallman Equip. Co., Inc.
Veri Products

SCRAPERS
Austin Products, Inc.
BMB Company
Deere & Co.
Eversman Mfg. Co.
International Harvester Co.
Massey-Ferguson, Inc. (Industrial Products)

SCREENERS, SOIL
Lindig Mfg. Corp.
Royer Foundry & Machine Co.

SCYTHES
Echo Chain Saw Div., Kioritz Corp. of America
Hoffco, Inc.

SEEDERS, BELT TYPE
FMC Corp., Ag. Machinery Div.

SEEDERS, DISC-TYPE
Brillion Iron Works, Inc.
International Harvester Co.
The Toro Company
Vandermolen Export Co.

SEEDERS, HOPPER-TYPE
Avco Ezee Flow Div.
Brillion Iron Works, Inc.
Cyclone Seeder Co., Inc.
Deere & Co.
Engineering Product Co.
Gandy Co.
Herd Seeder Co., Inc.
Hydro-Turf
International Harvester Co.
Jacobsen Mfg. Co.
Lakes Supply Co., Inc.
L. L. Larson Machine, Inc.
Lawn Medic, Inc.
Lely Corporation
Parker Sweeper Co.
Vandermolen Corp.

SEEDERS, HYDRAULIC
Bowie Industries
Finn Equipment Co.
Hydro Turf
Reinco, Inc.
Spray Baby
The Toro Company

SEEDERS, MOUNTED
Garber Seeders, Inc.

SEEDERS, PULL-TYPE
Garber Seeders, Inc.

SEEDERS, SOD
Brillion Iron Works, Inc.
Cyclone Seeder Co., Inc.

SHARPENER, CHAIN SAW
Foley Mfg. Co.
Granberg Industries

SHARPENER, MOWERS & CUTTERS
Foley Mfg. Co.
Travelrain Power Sprinkler Co.

SHEARS
Bartlett Mfg. Co.
Black & Decker
Corona Clipper Co.
Friend Mfg. Co.
Melnor Industries, Inc.
H. K. Porter, Inc.
Seymour Smith & Son, Inc.
Tallman Equipment Co., Inc.

SHREDDERS (Also See Chippers)
Billy Goat
E. L. Caldwell & Sons, Inc.
Deere & Co.
Engineering Products Co.
FMC Corp., Outdoor Power Equip. Div.
Ford Motor Co., Tractor Div.
F. D. Kees Mfg. Co.
Kemp Shredder Co.
Lindig Mfg. Co.
MTD Products, Inc.
Roto-Hoe Co.
Royer Foundry & Machine Co.
W-W Grinder

SNOW THROWER
Allis-Chalmers Corp., Outdoor and Leisure Products
J. I. Case Co., Outdoor Power Equip. Div.
Deere & Co.
FMC Corp., Outdoor Power Equip. Div.
Ferrari Tractors
Gravely Corp., Div. Clarke-Gravely
Hesston Corporation
International Harvester Co., Consumer Products
Jacobsen Mfg. Co.
Lakes Supply Co., Inc.
Massey-Ferguson, Inc.
Maxey Mfg. Co., Inc.
Solo Motors, Inc.
The Toro Company
Wheel-Horse Products
Wisconsin Marine, Inc.
Yardman, The Leisure Group, Inc.

SOD CUTTERS
Beck Mfg. Co.
Big Brute Turf Cut
Bowie Industries, Inc.
Brouwer Turf Equipment, Ltd.
Jacobsen Mfg. Co.
Princeton Mfg. Co.
Ryan, OMC-Lincoln

SOD HARVESTERS
Beck Mfg. Company
Brouwer Turf Equipment Ltd.
Nunes Mfg.
Princeton Mfg. Co.

SOIL TESTERS
Contree Sales, Inc.
Howard S. Crane, Inc.
Harbor Industries, Inc.
Hydroponic Chemical Co., Inc.
Soilmoisture Equipment Corp.
Sudbury Laboratory, Inc.

SPADE, TREE (Also See Tree Movers)
CareTree Systems
Vermeer Mfg. Co.

SPIKERS
Hahn, Inc.
Jacobsen Mfg. Co.
Power Spike Mfg. Co.
Ryan, OMC-Lincoln
Smithco, Inc.

SPRAY BOOMS
Amchem Products, Inc.
The Broyhill Co.
Century Engineering Corp.
Contree Sales, Inc.
Red Ewald, Inc.
FMC Corp., Ag. Machinery Div.
Friend Mfg. Corp.
H. D. Hudson Mfg. Co.
L. L. Larson Machine, Inc.
F. E. Myers & Bro. Co.
Papec Machine Co.
Root-Lowell Corp.
Walsh Manufacturing Co.

SPRAY GUNS
Bar-Way Mfg. Co.
The Broyhill Co.
Century Engineering Corp.
Contree Sales, Inc.
Delavan Mfg. Co.
FMC Corp., Ag. Machinery Div.
Foamspray Chemicals, Inc.
Friend Mfg. Corp.
W. L. Hamilton Co.
H. D. Hudson Mfg. Co.
L. L. Larson Machine, Inc.
Melnor Industries, Inc.
F. E. Myers & Bro. Co.
Root-Lowell Corp.
Spraying Systems Co.
Walsh Manufacturing Co.

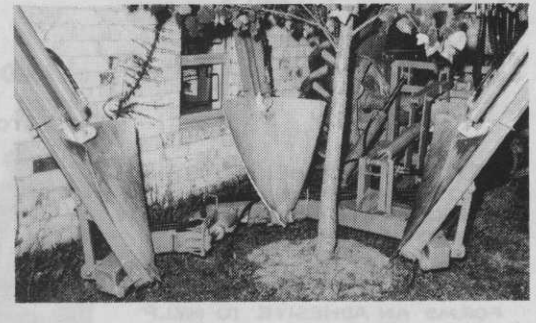
SPRAY NOZZLES, COMPLETE
Amchem Products, Inc.
Bete Fog Nozzle, Inc.
The Broyhill Co.

NEW SHORT-FRAME

CARETREE TRANSPLANTER

IMPROVED - MANEUVERABILITY

- ACCESS
- VISIBILITY
- BALANCE
- SPEED



FOR CLOSE-SPACED NURSERY AND LANDSCAPING OPERATIONS

CARETREE SYSTEMS

BOX 347, WORTHINGTON, OHIO 43085 Tel. (614) 846-2665

Buffalo Turbine Equipment Co.
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Contree Sales, Inc.
Delavan Mfg. Co.
Foamspray Chemicals, Inc.
Friend Mfg. Corp.
W. L. Hamilton Co.
H. D. Hudson Mfg. Co.
L. L. Larson Machine, Inc.
Melnor Industries
F. E. Myers & Bro. Co.
Papec Machine Co.
Root-Lowell Corp.
Spraying Systems Co.
Walsh Mfg. Co.

SPRAY NOZZLES, DISKS

The Broyhill Co.
Century Engineering Corp.
Delavan Mfg. Co.
Friend Mfg. Corp.
L. L. Larson Machine, Inc.
F. E. Myers & Bro. Co.
Spraying Systems Co.
Vandermolen Co.
Walsh Mfg. Co.

SPRAY NOZZLES, WHIRLS

The Broyhill Co.
Century Engineering Corp.
Delavan Mfg. Co.
Friend Mfg. Corp.
L. L. Larson Machine, Inc.
F. E. Myers & Bro. Co.
Spraying Systems Co.
Walsh Mfg. Co.

SPRAY-SLEEVE

Becco Products Co.

SPRAYER, BIFLUID

The Broyhill Co.
Buffalo Turbine Equip. Co.
Red Ewald, Inc.
FMC Corp., Ag. Machinery Div.
Finn Equipment Co.
Friend Mfg. Corp.

SPRAYERS, BOOM

Amchem Products, Inc.
John Blue Co., Inc.
The Broyhill Co.
Century Engineering Corp.
Contree Sale, Inc.
Cushman, OMC-Lincoln
Deere & Co.
Red Ewald, Inc.
FMC Corp., Ag. Machinery Div.
Fimco, Inc.
Friend Mfg. Corp.
Hahn, Inc.
H. D. Hudson Mfg. Co.
International Harvester Co.
L. L. Larson Machine, Inc.
F. E. Myers & Bro. Co.
Papec Machine Co.
Root-Lowell Corp.
Walsh Mfg. Co.
Waymark

SPRAYERS, CART OR WHEELBARROW TYPE

Amchem Products, Inc.
The Broyhill Co.
Buffalo Turbine Ind. Equip. Co.
Century Engineering Corp.
Chapin, R. E., Mfg. Works, Inc.
Deere & Co.
Red Ewald, Inc.
FMC Corp., Ag. Machinery Div.
Fimco, Inc.
Friend Mfg. Co.
H. D. Hudson Mfg. Co.
L. L. Larson Machine, Inc.
F. E. Myers & Bro. Co.
Root-Lowell Corp.
Solo Motors, Inc.

SPRAYERS, COMPLETE POWER UNIT (Also See Pumps)

Joh ezlue Co., Inc.
Bowie Industries, Inc.
The Broyhill Co.
Buffalo Turbine Ag. Equip Co.
Century Engineering Corp.
R. E. Chapin Mfg. Works, Inc.
Contree Sales, Inc.
Cushman, OMC-Lincoln
Deere & Co.
Echo Chain Saw Div., Kioritz Corp. of America
Edwards Mfg. Co.
Red Ewald, Inc.
FMC Corp., Ag. Machinery Div.
Ferrari Tractors
Fimco, Inc.
Friend Mfg. Corp.
Hub States Corporation
H. D. Hudson Mfg. Co.
Hydro Turf
Hypro Div., Lear Siegler, Inc.
L. L. Larson Machine, Inc.
Lawn Medic, Inc.
Leigh Products, Inc.
Lockwood Corporation
London Fog Company
F. E. Myers & Bro. Co.
Parco Products Co.
Public Health Equip. & Supply Co.
Robco, Inc.
Root-Lowell Corporation
Smith & Co., Inc. D. B.
Smithco, Inc.
Solo Motors, Inc.
Spray Baby, Inc.
Tradewinds, Inc.
Tree Ject Company
The Vandermolen Co.
Walsh Mfg. Co.
Waymark
Wayne Engineering Corp.

SPRAYERS, COMPRESSED AIR

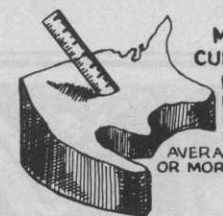
R. E. Chapin Mfg. Works, Inc.
Curtis-Dyna Products Corp.
Red Ewald, Inc.
H. D. Hudson Mfg. Co.
L. L. Larson Machine, Inc.
Parco Products Co.
Public Health Equip. & Supply Co.
Root-Lowell Corp.

SPRAYERS, HAND

Bartlett Mfg. Co.
Broyhill Co.
Buffalo Turbine Ag. Equip. Co.
Century Engineering
R. E. Chapin Mfg. Works, Inc.
Contree Sales, Inc.
Deere & Co.
Friend Mfg. Co.
H. D. Hudson Mfg. Co.
L. L. Larson Machine, Inc.
Leigh Products, Inc.
Melnor Industries, Inc.
Parco Products Co.
Root-Lowell Corp.
Solo Motors, Inc.
Tradewinds, Inc.
The Vandermolen Co.
Walsh Mfg. Co.

IT'S A FACT...

OVER A MILLION EARTHWORMS CAN INHABIT AN ACRE OF SOIL... DARWIN ESTIMATED THAT IN ONE ACRE, UP TO 10 TONS OF SOIL PASSES THROUGH THE BODIES OF EARTHWORMS EACH YEAR.



MOST CULTIVATED LAND in humid areas of the U.S. WILL ERODE AT AN AVERAGE OF 1 INCH OR MORE PER CENTURY.

NOTHING CAN MATCH terra tack HOLDS THE EARTH IN PLACE

...AND THAT'S A FACT!
Terra Tack as a spray helps control soil erosion.

- TERRA TACK HELPS PREVENT EROSION WHEN USED AS AN OVERSPRAY BY HOLDING STRAW OR HAY IN PLACE.
- TERRA TACK, IN A SLURRY OF SEED, FERTILIZER, AND FIBER, FORMS AN ADHESIVE TO HELP PREVENT EROSION.
- TERRA TACK'S COST?... AMAZINGLY LOW!

WITH TERRA TACK

WITHOUT TERRA TACK

Grass Growers
Box 584, Plainfield, N. J. 07061 (201) 755-0921

Quality & Service from Asplundh

Lift trucks, backed by innovative engineering and quality control, assure you of extra years of satisfactory service performance. Both Forestry and General Service bodies are on regular production schedules. LR Series Models come in 40-, 42-, 45- and 50-feet. All booms are fully insulated and operated by a high pressure hydraulic system with controls mounted on the Pylon Mast and in the basket for maximum safety and efficiency. When you invest in one or a fleet of our aerial lift trucks, you are assured of good service from the aerial device and from the people who build it. ASPLUNDH CHIPPER CO., a division of Asplundh Tree Expert Co., 50 E. Hamilton St., Chalfont, Pa. 18914.

ASPLUNDH

The famous Asplundh chipper is available with all our aerial device units if so desired. 12 inch or 16 inch models are in continuous production.

COMPLETE THE ATTACHED COUPON FOR MORE INFORMATION ON ASPLUNDH LIFT TRUCKS

Asplundh Chipper Co.
50 E. Hamilton Street
Chalfont, Pa. 18914

☐ Please send specification sheet

☐ Please contact me, I'm interested

NAME _____

COMPANY _____

ADDRESS _____
Street City State Zip

SIGNED _____

TITLE _____

For More Details Circle (124) on Reply Card

SPRAYERS, HOSE END
Amchem Products, Inc.
Bar-Way Mfg. Company
Broyhill Co.
Century Engineering Corp.
R. E. Chapin Mfg. Works, Inc.
FMC Corp., Ag. Machinery Div.
Friend Mfg. Co.
Hub States Corporation
H. D. Hudson Mfg. Co.
L. L. Larson Machine, Inc.
Leigh Products, Inc.
Melnor Industries, Inc.
F. E. Myers & Bro. Co.
Tree Ject Company
Walsh Mfg. Co.
Wayne Engineering Corp.

SPRAYERS, KNAPSACK
Bartlett Mfg. Co.
Buffalo Turbine Ag. Equip. Co.
R. E. Chapin Mfg. Works, Inc.
Echo Chain Saw Div., Kioritz Corp. of America
Friend Mfg. Co.
H. D. Hudson Mfg. Co.
Parco Products Co.
Public Health Equip. & Supply Co.
Robco, Inc.
Root-Lowell Corp.
Solo Motors, Inc.
Stihl American, Inc.
Tradewinds, Inc.
Vandermolen Co.

SPREADERS, DISC-TYPE
L. L. Larson Machine, Inc.
The Vandermolen Co.
Waymark

SPREADERS, HOPPER-TYPE
Arctic Mizer
Avco Ezee Flow Div.
John Blue Co.
Cushman, OMC-Lincoln
Deere & Co.
Ford Tractor Operations, North America
Gandy Co.
Great Lakes Chemical Div.
Herd Seeder Co., Inc.
Highway Equipment Co.
International Harvester Co.
F. D. Kees Mfg. Co.
L. L. Larson Machine, Inc.
Lely Corp.
Ryan, OMC-Lincoln
Simplex Mfg. Co.
Swenson Spreader & MFG. Co.
TCI, Inc.
Vandermolen Corp.
Vicon Farm Machinery, Inc.
Willmar Mfg. Co.

SPREADER, LIQUID
Amchem Products, Inc.
TCI, Inc.

SPRIGGERS
Beck Mfg. Co.
Bermuda King Co.
Bowie Machine Works

SPRINKLERS
(See Irrigation)

STENCILS, MARKING
Fox Valley Marking Systems
M-B Company

STONE PICKER
(Also See Rock Picker)
Armor Metal Products
William Bergman Company
Bridgeport Imple. Works, Inc.
Lockwood Corp.

STRAINERS
Hypro Division, Lear Siegler, Inc.

STRAINERS, SUCTION
Bar-Way Mfg. Co.

STUMP CUTTER/REMOVER
Arps Corp.
FMC Corp., Sweeper Div.
Hesston Corp., Lawn Equipment Div.
International Harvester Co.
Karl Kuemmerling, Inc.
Levco Mfg., Inc.
Olathe Mfg., Inc.
Valley Products Corp.
Vermeer Mfg. Co.

SWEEPERS, LAWN
(Also See Broom, Vacuum)
Billy Goat Industries, Inc.
BlueBird International, Inc.
Clark Div., Clarke-Gravely Corp.
Deere & Co.
FMC Corp., Sweeper Div.
International Harvester Co.
Jacobsen Mfg. Co.
M-B Company
Mars Industries, Inc.
Mathews Company
Melroe Mfg. Co.
Mid-State Metal Casters & Mfg. Co.
Nunes Mfg.
Parker Sweeper Co.
Ryan, OMC-Lincoln
Sweepster, Jenkins Equip. Co.
Tennant Maintenance Systems
The Toro Company
Turf Vac Corp.
Wheel Horse Products, Inc.

TAILGATES, LIFTING
Adventure Line Mfg. Co.
S & H Industries, Inc.

TANKS, SPRAY
John Blue Co.
The Broyhill Co.
Century Engineering Corp.
Contree Sales
Edwards Mfg. Co.
Red Ewald, Inc.
FMC Corp., Ag. Machinery Div.
Fibre Glass Products
Friend Mfg. Corp.
Hemco Corporation
H. D. Hudson Mfg. Co.
Inject-O-Meter Mfg. Co.
L. L. Larson Machine, Inc.
Leigh Products, Inc.
F. E. Myers & Bro. Co.
Papec Machine Co.
Raven Industries
Root-Lowell Corporation
Walsh Mfg. Co.

THATCHERS
(See Mowers, Vertical)
Arctic Mizer
Arps Corporation
BlueBird International, Inc.
E-Z Rake, Inc.
Giant-Vac Mfg., Inc.
Johnson Hydraulic Equip., Div. Arps Corp.
F. D. Kees Mfg. Co.
Parker Sweeper Company
Ryan, OMC-Lincoln
Swenson Spreader & Mfg. Co.
Triumph Machinery Co.

TILLERS
Allis-Chalmers
Ariens Co.
Auto Hoe, Inc.
J. I. Case, Outdoor Power Equip. Div.
Conaway, Inc.
Contree Sales, Inc.
Deere & Co.
Engineering Products Co.
FMC Corp., Ag. Machinery Div.
FMC Corp., Outdoor Power Equip. Div.
FMC Corp., Side-Winder
Ferrari Tractors
Ford Motor Co., Tractor Div.
Gravely Corp., Div. Clarke-Gravely
Howard Rotavator Co., Inc.
International Harvester Co.
Jacobsen Mfg. Co.
Lakes Supply Co., Inc.
Lely Corp.
Massey-Ferguson, Inc.
MTD Products, Inc.
Roseman Mower Corp.
Roto-Hoe Co.
Simplicity Mfg. Co.
Solo Industries, Inc.
Village Blacksmith
Wheel-Horse Products
Yazoo Mfg. Co., Inc.

TIRES
Dunlop Tire & Rubber Corp.

TOOLS, HAND, HYDRAULIC, PNEUMATIC
Black & Decker Co.
Deere & Co.
Friend Mfg. Corp.
F. D. Kees Mfg. Co.
Limb Lopper Co., Inc.
H. K. Porter, Inc.
Seymour Smith & Son, Inc.
Village Blacksmith

TOOL BOXES, PICKUP
(See Chests, Tool)

Regal Chemical bags it!

NITROFORM*
organic nitrogen

The nitrogen that pampers delicate turf. Feeds slowly instead of causing surges of growth that can cause stress.

HERCULES INCORPORATED

Turf and Horticultural Products, Synthetics Dept. Wilmington, Delaware 19899

* Registered trademark of Hercules Incorporated. STH74-22

For More Details Circle (142) on Reply Card

Hemco Corporation
Knaack Mfg. Co.

TOP DRESSERS

Cushman, OMC-Lincoln
Jabobsen Mfg. Co.
Lely Corp.
Ryan, OMC-Lincoln
Smithco, Inc.

TRACTORS, 8-12 HP

AMF Western Tool Division
Allis-Chalmers Corp.
Ariens Company
Avco New Idea
J. I. Case, Outdoor Power Equip Div.
Deere & Co.
FMC Corp., Outdoor Power Equip. Div.
Ferrari Tractors
Ford Tractor Operations, North America
Gravely, Div. Clarke-Gravely
International Harvester Co.
Massey-Ferguson, Inc.
Simplicity Mfg. Co.
Smithco, Inc.
Speedex Tractor Co.
Wheel-Horse Products
Yardman, The Leisure Group, Inc.

TRACTORS, 13-20 HP

Allis-Chalmers Corp., Outdoor and Leisure Products
Avco New Idea
John Blue Co.
J. I. Case, Outdoor Power Equip Div.
Conaway, Inc.
Deere & Co.
Economy Tractor
Engineering Products Co.
FMC Corp., Outdoor Power Equip. Div.
Ferrari Tractors
Ford Tractor Operations, North America
General Electric, Outdoor Power Equip. Operations
Gravely, Div. Clarke-Gravely Corp.
Hesston Corporation, Ind. Div.
International Harvester Co.
Kubota Tractors, Inc.
Massey-Ferguson, Inc.
Satoh Tractor c/o NEDA
Simplicity Mfg. Co.
Speedex Tractor Co.
Tradewinds, Inc.
Wheel-Horse Products
Yardman, The Leisure Group, Inc.

TRACTORS, 21-60 HP

Allis-Chalmers
Deere & Co.
Ferrari Tractor
Ford Tractor Operations, North America
International Harvester Co.
Kubota Tractors, Inc.
Massey-Ferguson, Inc.
J. Pickrell Co.
Satoh Tractor c/o NEDA
Slope Tractor, Inc.
Tradewinds, Inc.
Waldon, Inc.

TRACTORS, 61-150 HP

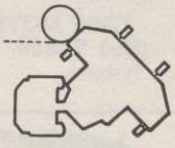
Allis-Chalmers
Deere & Co.
Ford Tractor Operations
Massey-Ferguson, Inc.

Exclusive features put you up front—into a whole new era of grounds maintenance

Hesston Front Runner® GMT... really ahead of the times!

Made-over or *make-do* equipment just won't do the professional job of groundskeeping you want the year around. This one performs in all seasons: mowing grass...vacuuming lawns...clearing snow...moving earth. And it performs far more efficiently than a scaled-down farm tractor.

The Front Runner, built specifically for grounds maintenance, is a tough, gutsy tractor with front-wheel hydrostatic drive and hydraulically controlled front-mounted attachments. Its top features? Articulated steering and vacuum pickup. The center pivot lets you mow easily around trees and shrubs, along curving walks and drives—usually in a single pass. An integrated vacuum pickup attachment to mower heads is self contained—it deposits trimmings in the tractor's built-in carryall. If you do need to stop and back up, there's no bulky trailer in the way! Your speed is infinitely variable from 0 to 11 mph.



Hesston Front Runner with exclusive articulated steering bends in the middle for easy maneuverability around obstacles in close quarters.

Conventional solid frame garden tractor with belly-mounted mowers can't match the easy maneuverability and up-close cut of the Front Runner.

The Front Runner GMT is available in three models—16, 18 and 19.8 hp. Choose from 48", 60" and giant 80" batwing mower heads. All attachments fit all models so you can get the capabilities and power most efficient for you. Send for color literature that includes specifications on all three models.

FR-1-174C

HESSTON CORPORATION
Lawn Equipment Division

8640 Brookville Road
Indianapolis, Indiana 46239

Please send me more information on the Hesston Front Runner GMT and the name of my nearest dealer.

NAME_____

COMPANY_____

ADDRESS_____

TOWN/STATE_____ ZIP_____

Waldon, Inc.

TRACTORS, 151 and up HP
Deere & Co.
Ford Tractor Operations
International Harvester Co.
Massey-Ferguson, Inc.
Waldon, Inc.

TRACTORS, CRAWLERS
Allis-Chalmers
Deere & Co.
International Harvester Co.

TRAILERS
Beatty Trailers
John Blue Co.
The Champion Co.
Clark Equipment Trailer Div.
Deere & Co.
Fayette Division, Dayton-Walther Corp.
Ginther Equipment Corp.
Harvestall Industries, Inc.
Jacobsen Mfg. Co.
Lakeside Mfg. Corp.
Lawn Medic, Inc.
Magline, Inc.
Maxey Mfg. Co., Inc.
Miller Tilt-Top Trailers, Inc.
R.A.M. Industries, Inc.
Rogers Bros.
E. R. Schwartz Mfg. Co.
Selma Trailer and Mfg. Co.
The Snow Company
Wheel Horse Products, Inc.

TRASH COMPACTORS
Piqua Engineering, Inc.

TREE INJECTORS
Creative Sales
Ferti-Feeder
Tree-Ject Company
Walsh Mfg. Co.

TREE MOVERS (See Spade, Tree)
CareTree Systems

Lawn King bags it!

NITROFORM*
organic nitrogen

The concentrated organic that takes up less storage space. Pathogen-free and odorless, too.

HERCULES INCORPORATED

Turf and Horticultural Products, Synthetics Dept. Wilmington, Delaware 19899

*Registered trademark of Hercules Incorporated. STH74-11

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Davey Tree Expert Co.
Ideal Crane Div.
Schutt's Equipment Co.
Vermeer Mfg. Co.

TREE WRAPPINGS
Bartlett Mfg. Co.
Bemis Mfg. Co.
American Excelsior Corp.

TRENCHER
Arps Corp.
Charles Machine Works
Davis Mfg.
Digz-All Trencher Co.
Ground Hog, Inc.
Moody Sprinkler Co., Inc.
Toro Irrigation Division
Towner Mfg. Co.
Vermeer Mfg. Co.

TRIMMERS, HEDGE AND GRASS, PARTS
Barlett Mfg. Co.
The Black & Decker Mfg. Co.
Bunton Co.
Conaway, Inc.
Gandy Company
Goodall Div.
Grandberg Industries
Jacobsen Mfg. Co.
K-D Mfg. Co.
Melnor Industries, Inc.
H. K. Porter, Inc.
Rowco Mfg. Co., Inc.
Seymour Smith & Son, Inc.
Stihl American, Inc.
Tallman Equip. Co., Inc.
Village Blacksmith
Wisconsin Marine, Inc.
Yazoo Mfg. Co., Inc.

TRUCK, ACCESSORIES
Maxey Mfg. Co., Inc.

TRUCK, FORESTRY
Asplundh Chipper Co.
Mobile Aerial Towers, Inc.

TRUCK, LIGHT-HAULING, UTILITY
Cushman, OMC-Lincoln
Ginther Equipment Corp.
HMC
Jacobsen Mfg. Co.
Wayne Engineering Corp.

TRUCK, UTILITY BODIES
Fibre Glass Products

TUBING (Also See Hose)
American Hose & Reel Co.

TURF VEHICLES
Club Car, Inc.
Cushman, OMC-Lincoln
E-Z Go Car, Div. Textron, Inc.
G.E.M. Products, Inc.
HMC
Harley-Davidson Motor Co., Inc.
Jacobsen Mfg. Co.
Jeep Corporation
Otis Elevator Co., Special Vehicle Div.
Pargo, Inc.
J. Pickrell Co.
Ryan, OMC-Lincoln
Smithco
The Snow Company
The Toro Company
Westinghouse Electric Corp.

UNDERWATER WEED HARVESTER (See Aquatic Weed Harvester)
A.O.A. Research & Development, Inc.
Air-Lec Industries, Inc.
Aquamarine Corporation
Mud Cat, Div. of National Car Rental
The Vandermolen Co.

UNDERWATER WEED RAKE
A.O.A. Research & Development Inc.
Air-Lec Industries, Inc.

UNLOADERS
Dico Co., Inc.

UTILITY TRAILERS
Beck Mfg. Co.
Magline, Inc.
Miller Tilt-Top Trailers, Inc.

VACUUMS
Allis-Chalmers Mfg. Co.
Arctic Mizer
Ariens Co.
Billy Goat Industries, Inc.
The Black & Decker Mfg. Co.
Clarke Div., Clarke-Gravely Corp.
Conaway, Inc.
Deere & Co.
E-Z Rake, Inc.
Giant-Vac Mfg., Inc.
Hesston Corp., Lawn Equipment Div.
Jacobsen Mfg. Co.
MTD Products, Inc.
Nunes Mfg.
Parker Sweeper Co.
Rego Div. Golconda Corp.
Ryan, OMC-Lincoln
Simplicity Mfg. Co., Inc.
Sweepster, Jenkins Equip. Co.
Swenson Spreader & Mfg. Co.
Tennant Maintenance Systems
Turf Vac Corp.
Wheel-Horse Products

VALVES (Also See Irrigation Valves)
Aqua-Dial
Hypro Division, Lear Siegler, Inc.
Inject-O-Meter Mfg. Co.

VALVE BOXES
Ametek, Plymouth Plastics Div.

VERTICAL SLITTER, TURF
BlueBird International, Inc.
Ryan, OMC-Lincoln

VIBRATORY PLOWS
Charles Machine Works
Davis Mfg.

WASHERS, HIGH PRESSURE
Century Engineering Corp.
Fimco, Inc.
Walsh Mfg. Co.
Wayne Engineering Corp.

WEED HARVESTER
Weed Eaters, Inc.

WELDERS
American Lincoln Corp.

WINCH (Also See Hoist)
Fairmont Hydraulics
Hoffco, Inc.
Ideal Crane Div.
International Harvester Co.
Fred A. Lewis Company
Maasdam Pow'r Pull, Inc.

Now Velsicol spans your vegetation control program

Six New BANVEL® Pre-Mix Combinations Added To The BANVEL® Herbicide Line.

Banvel pre-mix combinations containing 2,4-D and 2,4,5-T are available in either oil or water soluble formations, lets you eliminate *selectively* tough brush, vines and broadleaf weeds that other herbicides often miss.

With this choice, the herbicide can be matched to type of vegetation, season, location, soil type, topography, environment, and other considerations. See your Velsicol representative or herbicide applicator for details.

Why Banvel is the 3 E's Herbicide

EFFICACY—BANVEL herbicide is systemic—it translocates throughout the entire plant killing leaves, stems and roots. Broad-spectrum BANVEL gets the hard-to-kill vegetation.

ECONOMY—Long-lasting BANVEL herbicide offers low cost. Often one application per season is all that is required for weed and vine control. Brush can be controlled for several growing seasons, with a 3- to 5-year root kill.

ECOLOGY—BANVEL has relatively short persistence in the soil. It has established tolerances for many food crops and milk. BANVEL is not harmful to animals eating foliage.

For information, fill in blanks below.

I am interested in controlling _____ (vegetation) on _____ (place)

Please send sample labels and information to:

Name _____

Title _____

Company _____

Street or Box _____

City _____ State _____ Zip _____

VELSICOL

Interested in Your Success
A Subsidiary of Northwest Industries, Inc.

Velsicol Chemical Corporation
341 East Ohio Street
Chicago, Illinois 60611

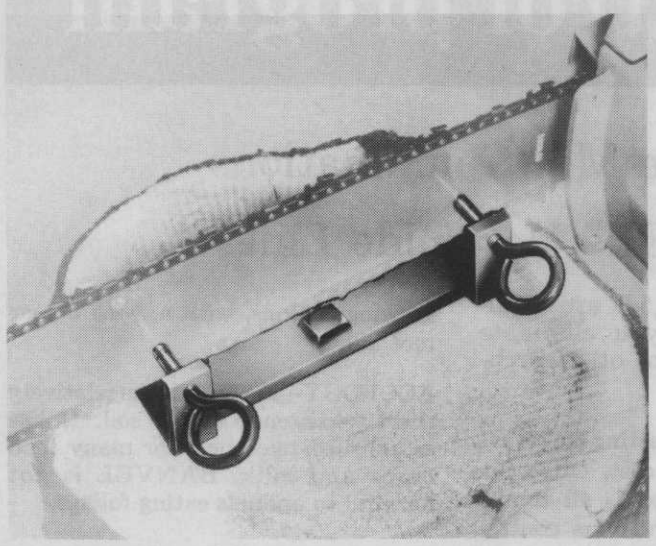
For More Details Circle (104) on Reply Card

ALGAETROL-76: Thompson-Hayward Chemical Co., Kansas City, Kan.

This algaecide is registered for use in swimming pools, lakes and fish hatcheries, rivers, irrigation ditches, and potable and waste water reservoirs. Treated areas may be used immediately for fishing, swimming, watering or irrigation. The algaecide comes concentrated, in quarts or gallons, and is applied by using hand or power sprayer. Initial treatment should be made when algae first becomes visible and water temperature is above 60 degrees F. Subsequent doses will prevent regrowth, according to the manufacturer. For more details, circle (705) on the reply card.

T-300A ROOT CUTTER: Vermeer Manufacturing Co., Pella, Iowa

New root cutter attachment for Vermeer's T-300A trencher features replaceable, carbide-tipped cutting teeth, mounted on 40-inch diameter wheel. Severs roots down to 18 inches below the surface. The unit's compact design — only 46 inches wide — permits operator to travel down sidewalks on rubberized 10-inch crawler tracks with independent hydraulic track drive. Offset design, along with an 18-inch cutting wheel clearance, permits the machine to cut roots along curbing while operating at roadway level. For more details, circle (706) on the reply card.



CLAMP-TITE: Zip-Penn, Inc., Erie, Pa.

This new vise holds chain saw firmly and securely; frees both hands, allows you to sharpen chain, clean air filter, adjust carburetor or perform other service requirements. Vise screws into a tree stump; the jaws clamp the guidebar and hold the saw in such a position that the chain can be moved freely around the bar. Made of welded steel, the Clamp-tite weighs 2¾ pounds. The vise can also be used to fasten an axe for two-handed sharpening. For more details, circle (707) on the reply card.

ATROPEN AUTO-INJECTOR: Survival Technology, Inc., Betheseda, Md.

This insecticide poison treatment kit has been developed for use wherever organophosphorus or carbamate insecticides are stored, transported, or used. The treatment kit has five prefilled automatic syringes (Atropens) containing the antidote atropine (2 mg. atropine each), plus complete instructions and a training syringe. The kit permits immediate painless treatment without seeing a needle. For more details, circle (708) on the reply card.

people on the move

ROBERT D. BLACKBURN, appointed president of Florida Aquatic Weed Control, Inc. He was formerly in charge of the Aquatic Plant Management Laboratory, USDA. **ELROY TIMMER,** also formerly with USDA, appointed vice president of operations of Florida Aquatic Weed Control, Inc.

* * *

C. M. GRAU, promoted to senior vice president of Agrico Chemical Co.

* * *

PAUL G. REGAN, named general manager of Lawn-Boy/Pioneer Distributors, Inc., a subsidiary of Outboard Marine Corp. (OMC).

* * *

DOUGLAS H. CREECY, appointed division advertising manager for the agricultural chemical division of Diamond Shamrock Chemical Co. Creecy will be responsible for the advertising and sales promotion activities of the division.

* * *

HAROLD R. RICHARD, selected to direct the Navy's soil and water conservation (land management) program, Alexandria, Va.

* * *

GEORGE F. STOVER, appointed railroad vegetation control specialist, Velsicol Chemical Corp.

* * *

JAMES H. KELLER, promoted to vice president, operations, of Hahn, Inc. Keller will be in charge of the entire manufacturing operation as well as information systems and corporate planning. **WAYNE POKORNEY,** promoted to director of operations planning and information systems for Hahn, Inc.

* * *

BUEL J. RODGERS, appointed agricultural marketing manager of the agricultural machinery division, FMC Corp.

* * *

JERRY L. FRAGNOLI, appointed regional sales manager for Telsco's Weather-matic Division Pacific Northwest territory.

* * *

RALPH D. RIPLEY, appointed vice president/regional manager of the North Central Region of Thompson-Hayward Chemical Co. In another company move, **CHARLES P. JENSEN,** named new branch manager at The Atlanta distribution center.

* * *

FRED SCALZO, joined Thompson Sorinkler Co. and has marketing responsibility primarily in the western states.

* * *

JOHN M. POPE, appointed as director, corporate marketing, of The Toro Co. Pope will be responsible for overall corporate marketing strategy, distribution planning and corporate communication. **N. M. (BUDDY) ELLISON,** appointed southeastern sales manager for Toro.

Quality

in looks, ability and performance in the field.

And, Jacklin Seed Company built its reputation for quality with top performance in the field year after year. Jacklin is your reliable answer to seed performance. When you order seed, specify JACKLIN SEED.

JACKLIN PRODUCES:
Merion, 0217® Fylking, Glade, Cheri, Nugget, S-21, Newport, Delta, Geary, Park, Six, and Troy Kentucky bluegrass; Rathdrum and Reubens Canada bluegrass; Norlea Perennial ryegrass, Public and private varieties of Creeping Red, Nova rubra, Chewings, and Hard fescues.

And has produced on a contract basis: Pennfine, N.K. 100, N.K. 200 and Pelo Perennial ryegrass. For these quality Jacklin seeds see your local wholesale seed distributor. Jacklin is also a prime* contract producer of: Warren's A-34, O.M. Scott's Windsor and Adelphi Kentucky bluegrass.
Jacklin has built a reputation of fine quality and service for over 30 years. You can count on purity of content, high quality and sure germination.

*Available only through breeder and owner outlets.

Jacklin® Seed Company

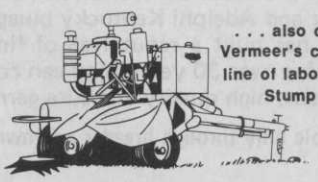
Division of the Vaughan-Jacklin Corporation

For More Details Circle (120) on Reply Card

COMPARE

Any crew can transplant one tree...but only Vermeer Tree Spades transplant a forest

You're looking at the profit end of a low-cost, high-production tree transplanting program—with "The Diggin' Dutchman's" TS-44A Tree Spade from Vermeer. Compare it with a whole crew of laborers and you'll see what we mean. The TS-44A requires no coffee breaks . . . no lunch hours . . . no overtime wages . . . just an occasional tank of gas to keep its hydraulically-operated spades digging, balling and transplanting a forest of trees up to 4" in diameter. Saves you thousands of dollars annually because one man can handle the entire job in minutes. Interested? Write "The Diggin' Dutchman" for all the facts.



. . . also compare Vermeer's complete line of labor-saving Stump Cutters.

Our 25th Year

THE DIGGIN' DUTCHMAN

VERMEER TREE EQUIPMENT DIVISION
7209 NEW SHARON RD. • PELLA, IOWA 50219

insect report

TURF INSECTS

FALL ARMYWORM

(SPODOPTERA frugiperda)

ARKANSAS: First economic infestation of season reported on Coastal Bermuda grass at Magnolia, Columbia County.

TREE INSECTS

SPRUCE BUDWORM

(Choristoneura fumiferana)

MAINE: Moth flights occurred as expected but much heavier than anticipated. Moths very heavy; gathered near roads and lights where "piles" found. Road from Allagash to Fort Kent literally "paved" with moths. Also reported heavy at Portage, Caribou, and Presque Isle. Moth flight appeared to precede storm from northwest. Moths heavy in central and north-central areas of State. Egg masses observed everywhere; mini-infestations may appear in 1975. Several minor flights also observed. PENNSYLVANIA: Adults found on hemlock and spruce. Thus pest appeared in heavy numbers in Centre, Armstrong, Butler, Green, Allegheny, Venango, Beaver, Mercer, Lawrence, Crawford, Clarion, Forest, Warren, McKean, Erie, and Washington Counties. Larvae seen this year in Clearfield and Jefferson Counties on hemlock.

YELLOWHEADED SPRUCE SAWFLY

(Pikonema alaskensis)

MAINE: Seems heavy although infestations light. Species can be very damaging, especially in spruce plantations. Cocoons noted in some infestations.

FALL WEBWORM

(Hyphantria cunea)

VERMONT: Webs expected soon. NEW HAMPSHIRE: Larvae in second instar. Webs noted on lilac and other hosts at Lee, Strafford County.

WHITEMARKED TUSSOCK MOTH

(Hemerocampa leucostigma)

MAINE: Second and third-instar larvae noticeable on several tree species, especially willows, at Old Twon, Penobscot County.

BENEFICIAL INSECTS

CHRYSOMELID BEETLE

(Agasicles hygrophila)

FLORIDA: Adults and larvae heavily infested leaves of all 30 plants of alligator weed, *Alternanthera philoxeroides,* examined at aquatic nursery in Tampa, Hillsborough County. This species introduced from Argentina to control alligator weed.

ALKALI BEE

(Nomia melanderi)

WASHINGTON: Sampling of 7 bee beds at Touchet, Walla Walla County, showed average of 6 percent eggs, 20 percent larvae, and 74 percent prepupae. Average of molded pollen balls 20 percent (range 10-43 percent).

classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Rates: All classifications 50¢ per word. Box number, $1. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment.

FOR SALE

DOUBLE EDGE sod cutter blades. Will fit any Ryan sod cutter. Works like double edge razor blade. Cuts much more sod per blade. Made to bolt on both ways. $24.00 plus postage. New automatic sod loaders for direct loading to pallets, trucks or trailers. No workers needed on ground. Both products developed and designed by Hadfield. Write or call Glen Hadfield, 4643 Sherwood, Oxford, Michigan 48051. Phone 313 628-2000.

ARPS stump cutter teeth, top quality and best price in U.S.A., D. J. Andrews, Inc., 17 Silver St., Rochester, New York 14611. Call 716 235-1230.

USED EQUIPMENT

FOR SALE: Sprayers: used and new; hydraulic and mist, all makes; Royal 20, 35, and 55 pumps. Used rotomist parts, big discount! Phone 313 665-5338 or 313 994-3110. Write: Ralph McFarland, 209 Pleasant Place, Ann Arbor, Michigan 48103.

FOR SALE: 1965 GMC 4000 Asplundh split-dump truck in good condition. Also Williams and Harvey tree mover mounted on 1964 Ford F600. Funk Bros. Tree Service, Inc., P.O. Box 226, Ashland, Ohio 44805. Phone Ashland 325-2113; Mansfield, 589-2619.

FOR SALE: 1 John Bean 35 GPM sprayer with 400 gallon tank, 300 ft. high pressure spray hose, and hose reel. For more information write or call B. M. Fry, Co., 8636 Mulberry Rd., Chesterland, Ohio 44026. Phone 216 729-7480.

5 GANG ROSEMAN MOWERS, $500. Also 7 gang, 4 Toro mowers, $200; Ryan sod cutter, $500, with roller attachment, $900; Cushman golf truck, $200; Fruehauf 32' flat $1,300; rebuilt Lima Crane diesel, $7,500. Phone 414 326-5267.

RECONDITIONED brush chippers, trucks with dump chip bodies, bucket trucks, backhoes, Case uniloader, Truco reel trailer and other miscellaneous construction and tree equipment. Trees of Houston, P.O. Box 94151, Houston, Texas 77018. Phone 713 692-6371

VERMEER 630 stump cutter with about 250 hours working time. Operates perfect in every way. Less than two years old. $3,000 is cost. If interested call Richard Crouch, 804 638-8383

LOG CHIPPER — Vermeer 1971, model 604, 650 total hours, diesel engine, make offer. Bob Calloway, 5148 North Flora, Kansas City, Missouri 64118. Phone 816 454-2242

VERMEER TM700T tree transplanter on 1966 Chevy truck, excellent shape, moves trees 40 feet tall. Call or write RR6, Warsaw, Indiana 46580. 219 267-3970.

PRINCETON SOD HARVESTER, excellent condition, low hours, 3 men harvest around 1 acre per day. Maryland Turfgrass Industries, Inc., P.O. Box 878, Elkton, Maryland 21921

TS-66T VERMEER tree spade on 1970 C-60 Chevrolet, excellent condition. Phone 303 392-9324.

1969 HYDRO-SEEDER, Finn 800 gallons, Phone Richfield, Ohio. 216 659-9444

SEEDS

SOD QUALITY Merion Seed for discriminating growers. Fylking, Delta, Park, Newport, Nugget, Adelphi, Cheri, Glade and Baron bluegrasses as well as fine fescues. Also Manhattan fine leaved rye grass. We will custom mix to your specifications. Michigan State Seed Co., Div. of Vaughan-Jacklin Corp., Grand Ledge, Michigan 48837. Phone No. 517 627-2164.

HELP WANTED

WORKING FOREMAN — We are a medium sized, midwestern, full service tree expert company, looking for an experienced crew foreman. Should be familiar with production trimming and removal. Modern equipment, paid hospitalization, vacation, and holidays. Salary open. Please send resume and salary requirements and any questions to Box 121, Weeds, Trees & Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

DISTRIBUTORS for D. J. Andrews, Inc. stump cutter teeth, pockets and bolts. Best wholesale and retail price in U.S.A. Add to this exclusive area, local advertising at our expense, etc., and you have our story. D. J. Andrews, Inc., 17 Silver St., Rochester, N.Y. 14611. Call 716 235-1230, or 716 436-1515.

MISCELLANEOUS

TREE APPRAISALS, Surveys, loss evaluations and expert consultation services. For names of members of the American Society of Consulting Arborists, Inc., throughout the country, contact: Executive Director ASCA, 12 Lakeview Ave., Milltown, New Jersey 08850.

BUSINESS OPPORTUNITIES

RIGHT-OF-WAY brush control business, netting $35,000 to $45,000 annually, total investment $125,000.00. Located in midwest. Write Box 122, Weeds, Trees, and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

POSITION WANTED

TREE CARE — MANAGEMENT OR SALES. Age 42. Founder and builder of one of the east coast's most prestigious tree care companies. Retired 3 years ago and am now anxious to get back into the tree care field either directly or with an allied industry. Will work for you, share in ownership with you or buy you out. Am looking for a challenging, high income potential situation where my sales ability can be combined with my extensive business management background. Am a dynamic, self assertive, positive thinking individual with proven leadership capabilities. Box 123, Weed, Trees & Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

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Hercules, Inc. .18, 25, 27, 46, 48, 49, 51, 56, 63, 64, 70, 71
Hesston Corp. 71
Jacklin Seed Co. 9, 26, 75
Jacobsen Co. .....3rd cover
Jobe's Tree Food Spikes..... 5
Lofts Pedigreed Seed Co. .....4th cover
Mitts & Merrill Inc. 28
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Pressure Injection Method Used to Combat Oak Wilt

Members of the Plant Pest Control Division of West Virginia's Department of Agriculture were out in full force to fight oak wilt disease this summer.

Oak wilt, a vascular wilt disease, threatens all oak forests in West Virginia. The disease was discovered in 1951 and control measures were initiated shortly afterwards.

This year, 50 summer workers and five low-flying aircraft were employed to locate and treat the dying trees to prevent the disease from spreading.

The U.S. Forest Service is conducting a pilot project in five eastern West Virginia counties to evaluate new control measures against oak wilt. The 700-square-mile area of diseased trees is being pressure injected with pesticides to kill the fungus disease and its insect carriers.

Agriculture Commissioner Gus R. Douglass said present control measures are effective, but the use of the new pressure injected apparatus and the proper pesticides promises to be a major breakthrough in the fight against the oak wilt disease.

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Cabot's Tree Healing Paint is a carefully prepared bituminous paint for protecting live wood and preventing decay. Leading arborists and foresters have been using it for almost half a century. Here are the reasons why:

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Antabuse, a product used to curb drinking by making you sick if you drink, is chemically related to the fungicide thiram, reports the Canadian Department of Agriculture. Pesticide experts state it's possible to take in enough thiram while working with it to make you sick to your stomach if you drink a cold beer after a hard day's work.

Hans Schabel, forestry professor at the University of Wisconsin, predicts a strong spread of Dutch elm disease throughout Wisconsin this fall. He says there is a particularly large population of elm bark beetles this year. Schabel suggests that Benlate might be used even this late in the season if transmittal of the disease has been by beetle and if there is less than five percent crown damage to the tree.

The National Fire Protection Association recently published in pamphlet form the "Tentative Code for Storage of Pesticides in Portable Containers." The code was developed to minimize involvement of pesticides in fires and to reduce the hazards to fire fighters and the public when fires involve buildings in which pesticides are stored. Code provisions apply to both inside and outside storage of all forms of pesticides in individual containers with a maximum capacity of 660 gallons. Copies of the code are available from the National Fire Protection Association, Publications Sales Department, 470 Atlantic Ave., Boston, MA., 02210. Cost is two dollars.

National Football League (NFL) players are expressing their dissatisfaction with artificial turf. At a recent NFL Players Association conference on the subject, Ed Garvey, the players group's executive director, said the NFL has taken "an ostrich-like approach" to the dispute over artificial surfaces. In addition, several players recited a litany of complaints about artificial turf. One player said he preferred the material be used for "doormats" and "outdoor patios."

"Aggregating pheromone," a powerful attractant bouquet released by virgin female European elm bark beetles for breeding and feeding purposes, has been successfully isolated by scientists. In recent field tests the artificial chemical has lured millions of the insect pests to their deaths. Aside from the control potential, the attractive chemical will find other important uses. Of particular importance is the ability to delineate the distribution of the beetle, detect its presence in new locations and monitor its emergence through varying weather conditions.

The Sprinkler Irrigation Association has a new publication entitled "Recommended Installation Specifications for Sprinkler Irrigation Systems for Turf and Landscaping." It is designed to serve as a national standard for the installation of turf and landscaping systems and to establish the lines of authority and responsibility between the irrigation contractor/installer and the owner. It forms a guide for complete installation for an irrigation system and is divided into sections covering general requirements, material specifications, installation procedures and owners responsibility. Copies can be obtained for one dollar each from the Sprinkler Irrigation Association, 13975 Connecticut Ave., Suite 310, Silver Spring, Maryland 20906.

The National Arborist Association is taking a pesticide survey. They want to inform the basic manufacturers of pesticides and the Environmental Protection Agency of their industry's needs and hopefully not be excluded from the re-registration of some pesticides in some states. Interested arborists should contact the National Arborist Association, Inc., 3537 Stratford Rd., Wantagh, N.Y. 11793.

GREEN INDUSTRY ASSOCIATIONS:

WEEDS TREES and TURF will be polling leading organizations in the Green Industry next month. We would like to know what your organization has accomplished in 1974 and what your goals are for 1975. Reports will appear in the December issue of WEEDS TREES and TURF.

For More Details Circle (128) on Reply Card

The three top dressers in the business.

Bob Scobee of Riley Lawn & Golf Equipment Corporation in Indianapolis, Ind. is one of them even though he denies it.

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